

State of California
The Resources Agency

DEPARTMENT OF WATER RESOURCES
Division of Operations and Maintenance

STATE WATER PROJECT OPERATIONS DATA

For the month of:
July 1998

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Governor
State of California

Douglas P. Wheeler
Secretary for Resources
The Resources Agency

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State of California
The Resources Agency

Department of Water Resources
Division of Operations and Maintenance

**State Water Project
Operations Data**
for the Month of July 1998

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MONTHLY HIGHLIGHTS

The following highlights are activities or actions that impacted State Water Project operations during the month of July 1998.

The first part of the summer was relatively cool, with no sustained hot weather until mid-July. The mild weather helped slow snowmelt, making possible good reservoir regulation of the very large runoff. Sacramento River system water year runoff was projected to be about 31.3 MAF. This is 173 percent of average, the seventh wettest on record. The water year total for the four major rivers of the San Joaquin River system was projected to be about 10.5 MAF, 184 percent of average, the ninth wettest since 1905. April through July snowmelt runoff for these two basins was around 190 percent of average, with 12.5 MAF in the Sacramento River and about 7 MAF on the San Joaquin River.

Statewide precipitation remained around 175 percent of average. The northern Sierra accumulations were almost 81 inches, 165 percent of average. Little rain occurred during July, although an invasion of southwest monsoon moisture around July 22 caused a few showers throughout the State.

Statewide reservoir storage was about 130 percent of average, compared to 92 percent one year ago. Approximately 94 percent of available storage is being used. On July 31, total storage in major SWP reservoirs was about 5.19 MAF, compared with 3.97 MAF at this time in 1997. July 31 storage at Lake Oroville was about 3.34 MAF, compared to 2.44 MAF at this time last year. SWP share of San Luis Reservoir storage was about 1.01 MAF, as compared with 553,683 AF at this time last year. Combined storage in our southern reservoirs was 663,700 AF, compared with 606,400 AF at this time last year. Water demands were unusually low due to continued cool and wet water conditions. SWP water deliveries for 1998 through July were 960,900 AF. This is a combination of project, transfer, and exchange waters. This is 546,000 AF less than that delivered during the same period in 1997.

On July 1, the SWP became a "Scheduling Coordinator" with the California Independent System Operator (ISO). The ISO is responsible for the operation of the electrical grid in California and the dispatch of generators that are made available in the day-ahead and hour-ahead markets by scheduling coordinators. SWP sold supplemental energy (Ancillary Service) to the California ISO during the week of July 13-17 as high temperatures throughout the southwest caused higher than expected electrical loads.

Over the weekend of July 4, Lake Oroville was cleared of debris. Lake Oroville was held at levels that allowed Civil Maintenance to maximize their clean up efforts. Storage in the lake slowly decreased during the month.

On July 12, a test was conducted at Hyatt, Thermalito and Gianelli plants to determine the maximum generation capacity that could be brought on line in 10 minutes. The test indicated that 541 MW was available from the Hyatt/Thermalito complex and 265 MW at Gianelli.

On July 13, an herbicide application was done at Clifton Court Forebay to control pond weed growth. To provide the required herbicide contact time, the elevation of Clifton Court was maintained at -1.5 feet for 36 hours with limited pumping at Banks to supply South Bay contractors.

USBR temporarily decreased pumping at Tracy Pumping Plant due to water level concerns from a south Delta water user. Tracy pumping was decreased to 4 units on July 18. Pumping with all 5 units resumed on July 21 after investigation indicated the problem was most likely caused by local sedimentation and was not significantly impacted by project exports. Additionally, the USBR opened the Cross Channel Gates on July 17.

The spill at Antelope Lake and Frenchman Lake, which began in April, ended during July.

Table 1. Antelope Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 22,566 ac-ft

July 1998

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Outflow in cfs						Computed Inflow 1/
				Regulated Release			Spill	Estimated Evaporation And Seepage 1/	Total Outflow 1/	
				Stream-flow Maint.	Water Supply Contract	Water Right				
Jun 30	5002.51	23,041								
1	5002.48	23,012	-29	20	0	0	45			
2	5002.46	22,994	-18	20	0	0	41			
3	5002.45	22,984	-10	20	0	0	40			
4	5002.42	22,956	-28	20	0	0	37			
5	5002.40	22,937	-19	20	0	0	33			
6	5002.44	22,975	38	20	0	0	34			
7	5002.43	22,965	-10	20	0	0	37			
8	5002.40	22,937	-28	20	0	0	34			
9	5002.35	22,890	-47	20	0	0	29			
10	5002.33	22,872	-18	20	0	0	24			
11	5002.31	22,853	-19	20	0	0	22			
12	5002.27	22,816	-37	20	0	0	19			
13	5002.25	22,797	-19	20	0	0	16			
14	5002.23	22,778	-19	20	0	0	14			
15	5002.22	22,769	-9	20	0	0	13			
16	5002.20	22,750	-19	20	0	0	11			
17	5002.18	22,732	-18	20	0	0	10			
18	5002.16	22,713	-19	20	0	0	8			
19	5002.13	22,685	-28	20	0	0	7			
20	5002.12	22,676	-9	20	0	0	5			
21	5002.09	22,648	-28	20	0	0	4			
22	5002.06	22,620	-28	20	0	0	2			
23	5002.05	22,611	-9	20	0	0	2			
24	5002.06	22,620	9	20	0	0	2			
25	5002.05	22,611	-9	20	0	0	2			
26	5002.02	22,583	-28	20	0	0	1			
27	5002.01	22,573	-10	20	0	0	0			
28	5001.98	22,546	-27	20	0	0	0			
29	5001.95	22,518	-28	20	0	0	0			
30	5001.91	22,481	-37	20	0	0	0			
31	5001.88	22,453	-28	20	0	0	0			
Total cfs-days			- - -	620	0	0	492	352	1,464	1,168
Total ac-ft			-588	1,230	0	0	976	698	2,904	2,316

1/ Values not available on a daily basis.

Table 2. Frenchman Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 55,477 ac-ft

July 1998

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Outflow in cfs						Computed Inflow 1/
				Regulated Release			Spill	Estimated Evaporation And Seepage 1/	Total Outflow 1/	
				Stream- flow Maint.	Water Supply Contract	Water Right				
Jun 30	5588.33	56,000								
1	5588.31	55,952	-48	3	0	0	27			
2	5588.35	56,031	79	2	21	0	28			
3	5588.21	55,809	-222	0	41	0	22			
4	5588.22	55,825	16	0	34	0	15			
5	5588.18	55,761	-64	0	34	0	13			
6	5588.02	55,508	-253	0	39	0	5			
7	5588.04	55,540	32	0	40	0	1			
8	5587.93	55,366	-174	0	38	0	0			
9	5587.91	55,334	-32	0	37	0	0			
10	5587.82	55,193	-141	0	37	0	0			
11	5587.77	55,114	-79	0	37	0	0			
12	5587.76	55,098	-16	0	37	0	0			
13	5587.75	55,082	-16	0	40	0	0			
14	5587.60	54,847	-235	0	45	0	0			
15	5587.50	54,690	-157	0	55	0	0			
16	5587.45	54,612	-78	0	60	0	0			
17	5587.38	54,502	-110	0	52	0	0			
18	5587.31	54,393	-109	0	48	0	0			
19	5587.22	54,253	-140	0	48	0	0			
20	5587.20	54,221	-32	0	50	0	0			
21	5587.15	54,144	-77	0	51	0	0			
22	5587.02	53,942	-202	0	51	0	0			
23	5586.98	53,880	-62	0	54	0	0			
24	5586.91	53,771	-109	0	58	0	0			
25	5586.80	53,601	-170	0	56	0	0			
26	5586.74	53,508	-93	0	55	0	0			
27	5586.64	53,354	-154	0	76	0	0			
28	5586.52	53,169	-185	0	86	0	0			
29	5586.42	53,015	-154	0	86	0	0			
30	5586.30	52,831	-184	0	79	0	0			
31	5586.18	52,648	-183	0	81	0	0			
Total cfs-days			- - -	5	1,526	0	111	591	2,233	543
Total ac-ft			-3,352	10	3,027	0	220	1,173	4,430	1,078

1/ Values not available on a daily basis.

Table 3. Lake Davis

Daily Operation

(in acre-feet except as noted)

Capacity: 84,371 ac-ft

July 1998

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Outflow in cfs						Computed Inflow
				Regulated Release			Spill	Estimated Evaporation And Seepage	Total Outflow	
				Stream- flow Maint.	Water Supply Contract	Water Right				
								1/	1/	1/
Jun 30	5772.37	74,142								
1	5772.34	74,029	-113	22	0	1	0			
2	5772.33	73,991	-38	22	0	1	0			
3	5772.31	73,916	-75	22	0	1	0			
4	5772.30	73,879	-37	22	0	1	0			
5	5772.27	73,766	-113	21	0	1	0			
6	5772.25	73,692	-74	22	0	1	0			
7	5772.23	73,617	-75	8	0	1	0			
8	5772.22	73,579	-38	8	0	1	0			
9	5772.20	73,504	-75	22	0	1	0			
10	5772.16	73,355	-149	22	0	1	0			
11	5772.12	73,205	-150	21	0	2	0			
12	5772.10	73,131	-74	22	0	2	0			
13	5772.08	73,056	-75	22	0	1	0			
14	5772.04	72,907	-149	22	0	1	0			
15	5772.01	72,795	-112	22	0	1	0			
16	5771.99	72,721	-74	22	0	1	0			
17	5771.97	72,647	-74	22	0	1	0			
18	5771.94	72,535	-112	22	0	1	0			
19	5771.91	72,424	-111	22	0	1	0			
20	5771.88	72,312	-112	22	0	1	0			
21	5771.85	72,201	-111	22	0	1	0			
22	5771.82	72,090	-111	22	0	1	0			
23	5771.79	71,979	-111	22	0	1	0			
24	5771.79	71,979	0	22	0	1	0			
25	5771.75	71,831	-148	22	0	1	0			
26	5771.73	71,757	-74	22	0	1	0			
27	5771.70	71,647	-110	22	0	1	0			
28	5771.69	71,610	-37	22	0	1	0			
29	5771.64	71,425	-185	22	0	1	0			
30	5771.60	71,278	-147	22	0	1	0			
31	5771.56	71,131	-147	22	0	1	0			
Total cfs-days			- - -	652	0	33	0	1,403	2,088	570
Total ac-ft			-3,011	1,293	0	65	0	2,782	4,141	1,130

1/ Values not available on a daily basis.

Table 4. Lake Oroville

Daily Operation

(in acre-feet except as noted)

Capacity: 3,537, 580 ac-ft

July 1998

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Outflow					Inflow	
				Hyatt Powerplant Generation 1/	Palermo Canal	Evaporation 2/	Spill	Total Outflow	Hyatt Powerplant Pumpback	Computed Inflow 3/
Jun 30	898.60	3,515,500								
1	898.23	3,509,682	-5,818	23,992	36	217	0	24,245	0	18,427
2	897.79	3,502,772	-6,910	22,274	36	420	0	22,730	0	15,820
3	897.38	3,496,342	-6,430	23,227	36	286	0	23,549	0	17,119
4	897.01	3,490,546	-5,796	18,186	36	276	0	18,498	0	12,702
5	896.93	3,489,294	-1,252	16,082	36	362	0	16,480	0	15,228
6	896.62	3,484,445	-4,849	18,107	36	390	0	18,533	0	13,684
7	896.17	3,477,415	-7,030	21,217	36	362	0	21,615	0	14,585
8	895.99	3,474,605	-2,810	16,066	36	427	0	16,529	0	13,719
9	895.86	3,472,577	-2,028	15,340	36	408	0	15,784	0	13,756
10	895.52	3,467,277	-5,300	17,235	36	322	0	17,593	0	12,293
11	895.69	3,469,926	2,649	9,386	36	294	0	9,716	0	12,365
12	895.48	3,466,654	-3,272	13,355	36	341	0	13,732	0	10,460
13	895.35	3,464,629	-2,025	12,720	36	398	0	13,154	0	11,129
14	895.03	3,459,649	-4,980	15,912	36	369	0	16,317	0	11,337
15	894.43	3,450,325	-9,324	20,094	38	464	0	20,596	0	11,272
16	893.83	3,441,019	-9,306	19,412	40	490	0	19,942	0	10,636
17	893.27	3,432,350	-8,669	18,142	40	452	0	18,634	0	9,965
18	893.21	3,431,422	-928	10,946	40	460	0	11,446	0	10,518
19	893.17	3,430,803	-619	10,347	40	516	0	10,903	0	10,284
20	892.81	3,425,240	-5,563	14,537	40	450	0	15,027	0	9,464
21	892.31	3,417,524	-7,716	16,927	40	394	0	17,361	0	9,645
22	891.76	3,409,051	-8,473	17,244	40	346	0	17,630	0	9,157
23	891.36	3,402,898	-6,153	17,132	40	94	0	17,266	0	11,113
24	890.77	3,393,837	-9,061	17,155	40	326	0	17,521	0	8,460
25	890.52	3,390,003	-3,834	14,112	40	308	0	14,460	0	10,626
26	890.16	3,384,487	-5,516	15,075	40	457	0	15,572	0	10,056
27	889.45	3,373,628	-10,859	19,143	40	447	0	19,630	0	8,771
28	888.86	3,364,622	-9,006	17,055	40	426	0	17,521	0	8,515
29	888.28	3,355,787	-8,835	15,746	40	380	0	16,166	0	7,331
30	887.59	3,345,297	-10,490	18,328	40	314	0	18,682	0	8,192
31	887.27	3,340,440	-4,857	15,002	40	277	0	15,319	0	10,462
Total			-175,060	519,496	1,182	11,473	0	532,151	0	357,091

1/ Includes bypass flows

2/ Evaporation will be zero for days when there is precipitation or heavy overcast

3/ Does not include pumpback

**Table 5. Thermalito Forebay
Including Diversion Pool and Power Canal**

Daily Operation

Capacity: 25,120 ac-ft

(in acre-feet except as noted)

July 1998

Date	Storage 1/	Storage Change	Inflow			Outflow					Losses (-) And Gains (+)
			Lake Oroville Releases 2/	Kelly Ridge Generation	Thermalito Pumping- Generating Plant Pumpback	Thermalito Pumping- Generating Plant Generation 3/	Butte County	Thermalito Irrigation District	Releases To River 4/	Hyatt Powerplant Pumpback	
Jun 30	21,681										
1	22,342	661	23,992	452	0	23,893	0	13	1,240	0	1,363
2	21,721	-621	22,274	484	0	22,545	0	13	1,244	0	423
3	22,093	372	23,227	494	0	22,418	0	13	1,246	0	328
4	23,164	1,071	18,186	514	0	16,815	0	13	1,248	0	447
5	22,716	-448	16,082	502	0	16,084	0	13	1,248	0	313
6	22,153	-563	18,107	502	0	18,213	0	13	1,240	0	294
7	22,131	-22	21,217	504	0	20,789	0	13	1,238	0	297
8	22,016	-115	16,066	506	0	15,743	0	13	1,238	0	307
9	22,071	55	15,340	506	0	15,532	0	13	1,244	0	998
10	22,946	875	17,235	504	0	16,517	0	13	1,252	0	918
11	22,849	-97	9,386	502	0	9,368	0	13	1,264	0	660
12	22,526	-323	13,355	504	0	13,633	0	13	1,242	0	706
13	22,950	424	12,720	504	0	11,681	0	13	1,242	0	136
14	22,163	-787	15,912	494	0	16,136	0	13	1,242	0	198
15	22,223	60	20,094	389	0	19,517	0	13	1,232	0	339
16	22,155	-68	19,412	504	0	19,649	0	13	1,232	0	910
17	22,572	417	18,142	500	0	17,223	0	13	1,230	0	241
18	22,560	-12	10,946	514	0	10,476	0	13	1,228	0	245
19	23,124	564	10,347	508	0	9,197	0	13	1,228	0	147
20	22,480	-644	14,537	504	0	14,588	0	13	1,234	0	150
21	22,434	-46	16,927	508	0	16,546	0	13	1,244	0	322
22	22,299	-135	17,244	502	0	16,891	0	14	1,236	0	260
23	22,507	208	17,132	532	0	16,420	0	14	1,224	0	202
24	23,549	1,042	17,155	472	0	15,600	0	14	1,234	0	263
25	23,235	-314	14,112	504	0	13,916	0	14	1,228	0	228
26	23,139	-96	15,075	458	0	14,703	0	14	1,238	0	326
27	22,039	-1,100	19,143	502	0	19,065	0	14	1,220	0	-446
28	23,614	1,575	17,055	415	0	15,510	0	14	1,236	0	865
29	23,560	-54	15,746	502	0	15,297	0	14	1,294	0	303
30	23,583	23	18,328	502	0	17,821	0	14	1,240	0	268
31	23,255	-328	15,002	506	0	14,848	1	14	1,234	0	261
Total		1,574	519,496	15,294	0	506,634	1	413	38,440	0	12,272

1/ Sum of Thermalito Forebay and Diversion Pool.

2/ Sum of releases from Lake Oroville through Hyatt plant, spill, and spillway leakage.

3/ Includes Bypass flows at Thermalito.

4/ The sum of the flows from fish barrier dam and the fish hatchery.

Table 6. Thermalito Afterbay

Daily Operation

(in acre-feet except as noted)

Capacity: 57,040 ac-ft

July 1998

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow	Outflow						Losses (-) and Gains (+)	Total Releases to River 2/
				Thermalito Pumping-Generating Plant Generation 1/	Sutter Butte Canal	Western Canal Lateral	Richvale Canal	Western Canal	Afterbay River Outlet	Thermalito Pumping-Generating Plant Pumpback		
Jun 30	132.22	39,925										
1	132.88	42,387	2,462	23,893	2,936	40	694	1,710	14,718	0	-1,333	15,958
2	133.44	44,529	2,142	22,545	2,916	40	734	1,658	14,718	0	-337	15,962
3	133.95	46,523	1,994	22,418	2,936	38	752	1,632	14,737	0	-329	15,983
4	133.09	43,185	-3,338	16,815	2,936	34	748	1,630	14,718	0	-87	15,966
5	131.98	39,047	-4,138	16,084	2,936	32	752	1,632	14,718	0	-152	15,966
6	131.66	37,890	-1,157	18,213	2,955	30	750	1,632	13,746	0	-257	14,986
7	132.52	41,036	3,146	20,789	3,015	32	752	1,688	11,722	0	-434	12,960
8	132.10	39,485	-1,551	15,743	3,015	34	750	1,732	11,742	0	-21	12,980
9	131.32	36,679	-2,806	15,532	3,015	30	772	1,761	11,722	0	-1,038	12,966
10	130.96	35,416	-1,263	16,517	2,995	26	780	1,779	11,227	0	-973	12,479
11	129.19	29,513	-5,903	9,368	2,975	26	780	1,779	9,223	0	-488	10,487
12	128.71	28,000	-1,513	13,633	2,936	26	780	1,779	8,708	0	-917	9,950
13	127.79	25,205	-2,795	11,681	2,916	28	780	1,781	8,727	0	-244	9,969
14	128.34	26,859	1,654	16,136	3,015	32	780	1,779	8,727	0	-149	9,969
15	129.81	31,523	4,664	19,517	3,035	30	780	1,801	8,708	0	-499	9,940
16	131.11	35,940	4,417	19,649	3,055	28	780	1,831	8,727	0	-811	9,959
17	131.76	38,250	2,310	17,223	3,074	28	781	1,864	8,708	0	-458	9,938
18	130.60	34,175	-4,075	10,476	3,094	28	780	1,910	8,708	0	-31	9,936
19	128.94	28,720	-5,455	9,197	3,074	30	778	1,928	8,708	0	-134	9,936
20	128.84	28,406	-314	14,588	3,074	32	780	1,930	8,727	0	-359	9,961
21	129.39	30,154	1,748	16,546	3,074	34	780	1,930	8,727	0	-253	9,971
22	129.96	32,019	1,865	16,891	3,074	34	781	1,930	8,727	0	-480	9,963
23	130.40	33,494	1,475	16,420	3,074	34	781	1,930	8,727	0	-399	9,951
24	130.68	34,449	955	15,600	3,094	34	780	1,896	8,727	0	-114	9,961
25	130.45	33,663	-786	13,916	3,074	32	780	1,839	8,727	0	-250	9,955
26	130.46	33,697	34	14,703	3,035	30	780	1,785	8,708	0	-331	9,946
27	131.71	38,070	4,373	19,065	3,015	30	780	1,771	8,727	0	-369	9,947
28	131.97	39,011	941	15,510	3,035	30	780	1,755	8,727	0	-242	9,963
29	132.20	39,852	841	15,297	3,055	30	780	1,742	8,727	0	-122	10,021
30	133.00	42,842	2,990	17,821	3,055	30	780	1,730	8,727	0	-509	9,967
31	133.08	43,147	305	14,848	3,035	30	780	1,722	8,727	0	-249	9,961
Total			3,222	506,634	93,523	972	23,865	55,266	317,417	0	-12,369	355,857

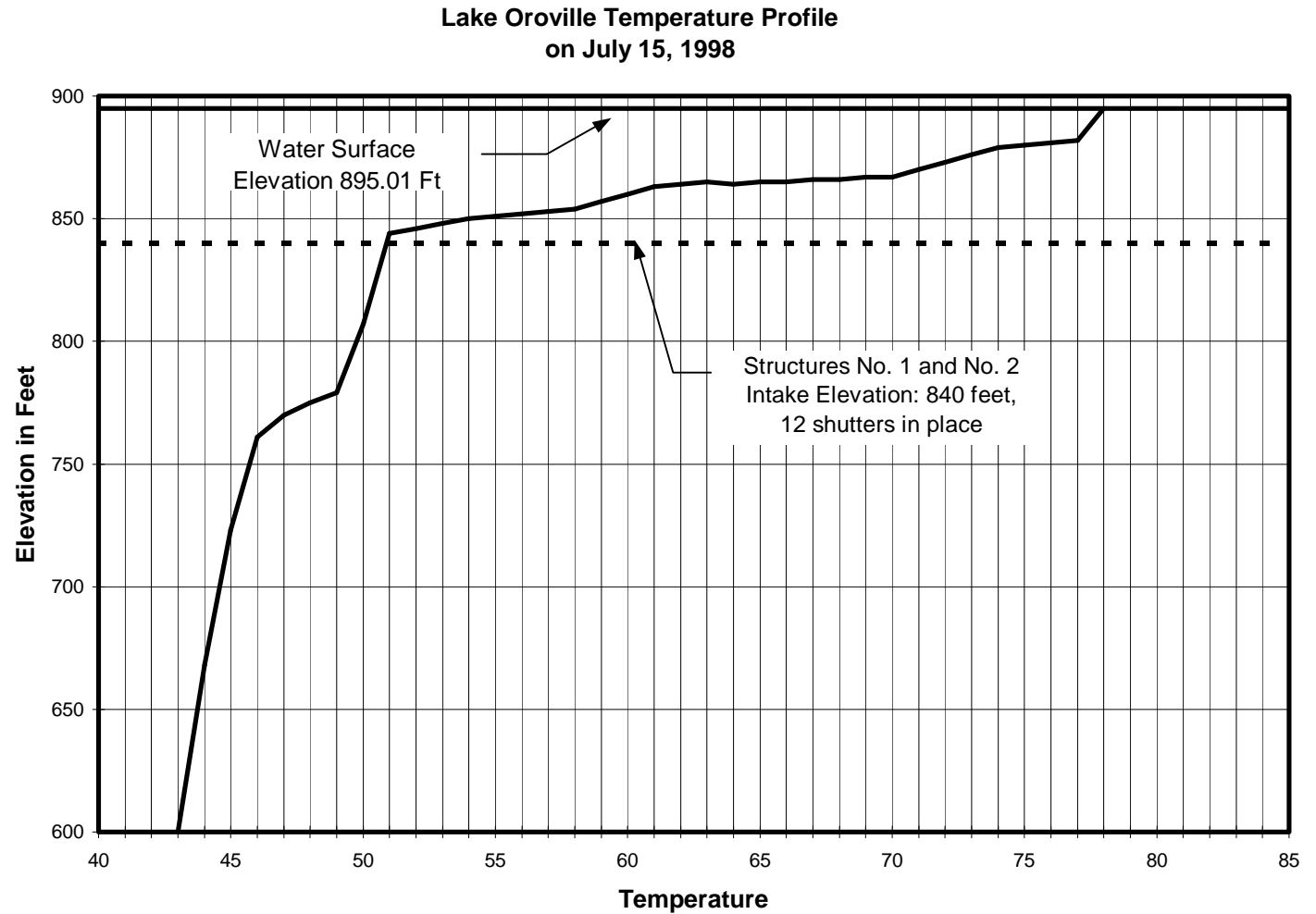
1/ Includes Bypass flows at Thermalito.

2/ The sum of the flows from the fish barrier dam, fish hatchery, and afterbay river outlet.

Table 7. Oroville-Thermalito Complex

Water Temperature Data
(in degrees Fahrenheit)
July 1998

Date	Mean Daily Temperature	
	Thermalito Afterbay Outlet	Fish Hatchery
1	59	57
2	60	58
3	61	58
4	62	58
5	63	58
6	63	58
7	64	59
8	63	58
9	63	57
10	63	56
11	64	57
12	65	57
13	65	58
14	65	57
15	65	58
16	64	59
17	65	59
18	66	59
19	67	58
20	67	58
21	66	59
22	64	60
23	63	60
24	64	60
25	65	61
26	66	60
27	67	61
28	66	61
29	65	57
30	65	57
31	66	57



Note: Water surface elevations on Table 4 are taken at Oroville Dam at midnight and may differ slightly from those shown on this table which are normally taken at mid-day and upstream from Oroville Dam.

**Table 8. Aqueduct Operation
Delta Field Division**

(in acre-feet except as noted)

December 1998

<u>North Bay Aqueduct</u>	
Pumped at Barker Slough Pumping Plant	<u>2,820</u>
Travis Turnout	<u>121</u>
Fairfield/Vacaville Turnout	<u>0</u>
Pumped at Cordelia Pumping Plant	<u>2,610</u>
Cordelia Pumping Plant Spillway	<u>0</u>
Computed Losses (-) or Gains (+)	<u>-89</u>
Benicia Turnout	<u>961</u>
Vallejo Turnout	<u>774</u>
American Canyon 1	<u>109</u>
American Canyon 2	<u>0</u>
Napa City Turnout	<u>766</u>
Total Deliveries (After Cordelia)	<u>2,610</u>
Change in Storage at Napa Terminal Tank	<u>0</u>
<u>California Aqueduct</u>	
Amount Pumped at Banks Pumping Plant	<u>128,026</u>
Amount Pumped at South Bay Pumping Plant	<u>7,126</u>
Deliveries From California Aqueduct (Oak Flat Water District, Tracy Golf, Veterans Cemetery, and Musco Livestock)	<u>69</u>
Inflow into California Aqueduct	<u>0</u>
Change in Storage	<u>-298</u>
Flow Past Check 12	<u>120,050</u>
Computed Losses (-) or Gains (+)	<u>-1,079</u>

Table 9. Delta Field Division Plant Data

(in acre-feet)

July 1998

Date	North Bay Aqueduct		California Aqueduct		South Bay Aqueduct			
	Barker Slough Pumping Plant	Cordelia Pumping Plant	Banks Pumping Plant		South Bay Pumping Plant	Del Valle Pumping Plant		
			Total	SWP		Into Lake	Into Aqueduct	Gravity Flow Through Plant Into Aqueduct
1	164	65	7,724	7,724	462	0	0	0
2	164	77	8,385	8,385	458	0	0	0
3	168	75	7,623	7,623	443	0	0	0
4	175	80	6,699	6,699	429	0	0	0
5	162	69	5,542	5,542	433	0	0	0
6	171	72	4,707	4,707	440	0	0	0
7	170	72	3,109	3,109	477	0	0	0
8	181	82	1,457	1,457	497	0	0	0
9	180	81	4,443	4,443	509	0	0	0
10	163	65	8,290	8,290	488	0	0	0
11	169	69	8,423	8,423	469	0	0	0
12	180	74	6,763	6,763	447	0	0	0
13	201	87	1,095	1,095	456	0	0	0
14	190	84	1,087	1,087	432	0	0	13
15	174	75	6,706	6,706	432	0	0	35
16	202	90	7,997	7,997	445	0	0	66
17	209	92	8,270	8,270	447	0	0	79
18	194	85	8,129	8,129	443	0	0	51
19	218	104	8,882	8,882	437	0	0	84
20	170	69	9,134	9,134	440	0	0	59
21	208	97	9,500	9,500	446	0	0	49
22	191	83	7,000	7,000	447	0	0	51
23	206	101	7,491	7,491	447	0	0	43
24	184	76	7,529	7,529	459	0	0	47
25	189	84	7,547	7,547	447	0	0	47
26	197	86	12,926	12,926	447	0	0	54
27	204	90	7,426	7,426	447	0	0	60
28	189	84	7,416	7,416	447	0	0	54
29	162	72	6,932	6,932	444	0	0	77
30	191	86	7,719	7,719	435	0	0	66
31	164	67	7,450	7,450	438	0	0	79
Total	5,690	2,493	213,401	213,401	13,988	0	0	1,020

Daily Operation of Gates:

[illegible]

Table 11. Governor Edmund G. Brown California Aqueduct

Delta Field Division, Monthly Deliveries

(In acre-feet)

July 1998

Reach No.	Operating Pool			Turnout	Total Diver- sions	Deliveries					
	Beginning and Ending					Entitle- ment	USBR	Misc.	Loan Water	1997 Carryover Ent.	
	No.	Structure	Mile								
1	1	Banks Pumping Plant	3.32		213,401	115	33				
2A		1	South Bay Pumping Plant	4.49	Bethany Reservoir Inlet						13,988
			Check No. 1	5.95							
	2	Check No. 2	12.01								
	3		12.47	Musco Olive	33						
		Check No. 3	18.29								
	4		22.16	Tracy Golf & Country Club	0						
		Check No. 4	23.99								
	5	Check No. 5	29.73								
	6	Check No. 6	34.24								
	7		35.22	Turlock Fruit Company Inflow	0						
		Check No. 7	39.91								
	8		42.46	Oak Flat Water District-A	115						
			43.81	Oak Flat Water District-B	532						
			44.64	Oak Flat Water District-C	172						
		Check No. 8	45.97								
	9		46.18	Oak Flat Water District-D	305						
		Oak Flat Totals:	1,124								
2B	9	Check No. 9	51.30								
		10	Check No. 10	56.86							
	11	Check No. 11	61.40								
	12		66.14	Veteran's Cemetery	5						
		Check No. 12	66.71		194,247						

Table 12. South Bay Aqueduct
Delta Field Division, Monthly Deliveries

(In acre-feet)

July 1998

Reach No.	Operating Pool			Turnout	Total Diver- sions	Deliveries										
	Beginning and Ending					Entitle- ment	Ext. M & I Cry. Ovr.	Local	Recre- ation							
	No.	Structure	Mile													
1	1	South Bay Pumping Plant	0.00	(into South Bay Aqueduct)	13,988	214		10								
			3.17	Granite - Vasco Rd. (Temp.)	0											
			3.18	Oakland Scavenger Zone 7	10											
		Check No. 1	3.91													
	2	Check No. 2	5.21													
2	3		7.21	Zone 7 Altamont	26						26 1,004					
		Check No. 3	9.49	Zone 7 Patterson Stored Exchange	1,004											
				Zone 7 Patterson Project Water	0											
4	4	Check No. 4	10.68											250 251 591 84 13 11		
	5	Check No. 5	12.29													
	6		13.55	Zone 7 Wente #1	250											
			14.16	Zone 7 Wente #2	251											
			Check No. 6	14.65												
			7		14.78											Zone 7 Arroyo Mocho
	Check No. 7	16.38														
	5	8		16.57	Zone 7 Wente #3											84
				16.69	Zone 7 Norman Nursery											13
				16.70	Zone 7 Concannon Stored Exchange											11
				Del Valle Branch Pipeline Junction	18.63											(Flow into Lake Del Valle)
			Deliveries through Del Valle Branch Pipeline		Arroyo Valle #1 & #2 Inflow Released											0
					Arroyo Valle #1 & #2 Stored Exchange											309
					Lake Del Valle Recreation											24
Zone 7 Wente #5					129											
So. Livermore Project					0											
So. Livermore Stored Released					1,020											
6		19.20	So. Livermore Stored Exchanged	1,371												
		19.21	Zone 7 - Kalthrof Detjens	233												
		7	La Costa Tunnel	22.50	ACWD Vallecitos									0		
25.97	City of San Francisco San Antonio			0												
8	Mission Tunnel	28.97	ACWD - Bayside 1 & 2 Project Water: Inflow Released Stored Exchange:	1,911 0 767	1,911									767		
9	Santa Clara Pipeline	35.86	S.C.V.W.D. Meter	7,018	7,018											

Table 13. Lake Del Valle

Daily Operation

Capacity: 77,106 ac-ft

(in acre-feet except as noted)

July 1998

Date	Water Surface Elevation (feet)	Storage	Storage Change	Inflow		Outflow					Precipitation (inches)
				Natural 1/ 3/	From South Bay Aqueduct	Arroyo Valle	South Bay Aqueduct	Recreation Deliveries 2/	Evaporation	Total Outflow	
Jun 30	703.33	40,148									
1	703.32	40,141	-7		0	0	0	0	11	11	0.00
2	703.31	40,134	-7		0	0	0	0	10	10	0.00
3	703.31	40,134	0		0	0	0	0	12	12	0.00
4	703.31	40,134	0		0	0	0	0	12	12	0.00
5	703.31	40,134	0		0	0	0	0	11	11	0.00
6	703.31	40,134	0		0	0	0	0	15	15	0.00
7	703.31	40,134	0		0	0	0	0	18	18	0.00
8	703.31	40,134	0		0	0	0	1	12	13	0.00
9	703.30	40,127	-7		0	0	0	1	13	14	0.00
10	703.29	40,120	-7		0	0	0	1	9	10	0.00
11	703.27	40,106	-14		0	0	0	1	13	14	0.00
12	703.26	40,098	-8		0	0	0	1	15	16	0.00
13	703.24	40,084	-14		0	0	0	1	21	22	0.00
14	703.22	40,070	-14		0	0	13	1	14	28	0.00
15	703.17	40,035	-35		0	0	35	1	22	58	0.00
16	703.06	39,957	-78		0	0	66	1	18	86	0.00
17	702.93	39,865	-92		0	0	79	1	13	93	0.00
18	702.80	39,773	-92		0	0	51	1	20	72	0.00
19	702.68	39,688	-85		0	0	84	1	19	104	0.00
20	702.67	39,681	-7		0	0	59	1	16	76	0.00
21	702.59	39,625	-56		0	0	49	1	9	60	0.00
22	702.51	39,569	-56		0	0	51	1	13	66	0.00
23	702.44	39,519	-50		0	0	43	1	14	58	0.00
24	702.36	39,463	-56		0	0	47	1	15	63	0.00
25	702.28	39,407	-56		0	0	47	1	15	63	0.00
26	702.20	39,351	-56		0	0	54	1	15	70	0.00
27	702.10	39,281	-70		0	0	60	1	17	79	0.00
28	701.97	39,190	-91		0	0	54	1	11	66	0.00
29	701.84	39,099	-91		0	0	77	1	11	90	0.00
30	701.71	39,008	-91		0	0	66	1	13	80	0.00
31	701.57	38,911	-97		0	0	79	1	0	80	0.00
Total			-1,237	234	0	0	1,020	24	427	1,471	0.00

1/ Total inflow from stream gaging station above Lang Canyon and accretions/depletions.

2/ To East Bay Regional Park District.

3/ Not available on a daily basis.

NR=No Records

Table 14. Consolidated State-Federal O'Neill Forebay

Daily Operations

July 1998

United States
Department of the Interior
Bureau of Reclamation
Central Valley Project

State of California
The Resources Agency
Department of Water Resources
State Water Project

Capacity: 56,430 Acre-feet

Date	Water Surface Elev. (in feet)	Storage (ac-ft)	Storage Change (ac-ft)	Inflow (cfs)				Outflow (cfs)				Computed Losses (-) Gains (+) (cfs)
				Pump In 1/	O'Neill Pumping Generating Plant (Pumped)	Gianelli Pumping Generating Plant (Generation)	California Aqueduct	O'Neill Pumping Generating Plant (Generation)	Gianelli Pumping Generating Plant (Pumped)	Dos Amigos Pumping Plant	Deliveries 2/	
Jun 30	221.55	47,204										
1	221.72	47,651	447	2	3,056	1,312	3,613	0	0	7,590	55	-113
2	222.08	48,597	946	2	2,859	1,312	3,941	0	0	7,404	61	-172
3	222.24	49,022	425	1	2,814	1,312	3,577	0	0	7,565	59	134
4	223.02	51,100	2,078	1	2,623	3,150	3,251	0	0	8,016	47	86
5	222.14	48,756	-2,344	1	2,576	527	2,503	0	0	6,705	56	-28
6	223.25	51,714	2,958	1	2,672	3,153	2,230	0	0	6,586	56	77
7	223.69	52,893	1,179	1	2,686	4,390	1,443	0	148	7,854	56	132
8	221.71	47,625	-5,268	1	2,510	3,105	156	0	738	7,915	43	268
9	220.49	44,427	-3,198	1	2,283	3,075	1,875	0	292	8,729	36	211
10	220.58	44,661	234	0	2,377	3,075	3,868	0	513	8,787	36	134
11	221.95	48,255	3,594	0	2,727	3,246	3,754	0	0	7,794	40	-81
12	222.01	48,411	156	0	2,824	1,949	3,289	0	369	7,403	27	-184
13	222.12	48,703	292	0	3,010	5,108	451	0	645	7,669	27	-81
14	222.03	48,464	-239	0	3,091	5,698	63	0	445	8,508	30	11
15	221.72	47,651	-813	0	3,075	2,084	2,802	0	443	7,932	30	34
16	222.46	49,607	1,956	0	2,904	2,607	3,771	0	0	8,375	44	123
17	221.85	47,992	-1,615	0	2,901	1,473	3,860	0	443	8,618	48	61
18	221.88	48,071	79	0	2,546	2,336	3,893	0	0	8,783	62	110
19	220.47	44,374	-3,697	0	2,145	1,487	4,238	0	690	9,101	62	119
20	220.90	45,498	1,124	0	1,494	3,690	4,054	0	0	9,098	62	489
21	220.16	43,567	-1,931	0	1,630	2,659	4,355	0	374	9,137	72	-35
22	220.71	45,001	1,434	0	2,174	5,058	2,867	0	449	9,054	68	195
23	220.41	44,218	-783	0	1,633	3,941	3,605	0	0	9,674	70	170
24	220.25	43,801	-417	0	1,396	4,280	3,641	0	0	9,414	76	-37
25	221.17	46,206	2,405	0	1,532	5,620	3,617	0	0	9,476	86	6
26	220.28	43,879	-2,327	0	1,345	257	6,239	0	0	8,970	86	42
27	221.55	47,204	3,325	0	1,547	5,389	3,227	0	0	8,523	92	128
28	221.55	47,204	0	0	1,728	3,748	3,430	0	0	8,713	112	-81
29	221.41	46,836	-368	0	1,337	3,900	3,272	0	0	8,492	112	-91
30	221.04	45,865	-971	0	1,404	3,902	3,614	0	0	9,157	116	-137
31	221.46	46,968	1,103	0	1,449	4,827	3,433	0	0	9,066	110	23
Total			-236	11	70,348	97,670	97,932	0	5,549	260,108	1,937	1,513
Mean cfs			- - -	0	2,269	3,151	3,159	0	179	8,391	62	49
ac-ft			-236	22	139,532	193,729	194,247	0	11,004	515,923	3,843	3,004

1/ Floodwater Mile 82.67R.

2/ Includes 0 AF delivered to DFG at O'Neill Forebay; does not include Parks and Recreation deliveries shown on Table 19.
Total Parks and Recreation deliveries for the year are included in December's operation report.

Table 15. Consolidated State-Federal San Luis Reservoir

Daily Operations

July 1998

United States

Department of the Interior

Bureau of Reclamation

Central Valley Project

State of California

The Resources Agency

Department of Water Resources

State Water Project

Capacity: 2,027,835 ac-ft

Date	Water Surface Elev. (in feet)	Storage (ac-ft)	Storage Change (ac-ft)	Inflow (cfs)	Outflow (cfs)			Computed Losses (-) Gains (+) (cfs)
				Gianelli Pumping Generating Plant (Pumped)	Gianelli Pumping Generating Plant (Generation)	Pacheco Tunnel 1/	Sisk Dam Spill	
Jun 30	542.70	2,024,025						
1	542.45	2,020,851	-3,174	0	1,312	149	0	-139
2	542.21	2,017,806	-3,045	0	1,312	148	0	-75
3	541.98	2,014,889	-2,917	0	1,312	145	0	-14
4	541.47	2,008,426	-6,463	0	3,150	149	0	41
5	541.35	2,006,907	-1,519	0	527	143	0	-96
6	540.83	2,000,327	-6,580	0	3,153	165	0	1
7	540.03	1,990,219	-10,108	148	4,390	191	0	-663
8	539.61	1,984,919	-5,300	738	3,105	193	0	-112
9	539.11	1,978,616	-6,303	292	3,075	149	0	-246
10	538.66	1,972,949	-5,667	513	3,075	155	0	-140
11	538.11	1,966,031	-6,918	0	3,246	177	0	-65
12	537.81	1,962,261	-3,770	369	1,949	184	0	-137
13	537.11	1,953,475	-8,786	645	5,108	189	0	222
14	536.24	1,942,573	-10,902	445	5,698	166	0	-77
15	535.93	1,938,694	-3,879	443	2,084	188	0	-127
16	535.48	1,933,067	-5,627	0	2,607	195	0	-35
17	535.27	1,930,443	-2,624	443	1,473	200	0	-93
18	534.84	1,925,075	-5,368	0	2,336	200	0	-170
19	534.68	1,923,078	-1,997	690	1,487	193	0	-17
20	533.95	1,913,979	-9,099	0	3,690	196	0	-701
21	533.54	1,908,876	-5,103	374	2,659	191	0	-97
22	532.75	1,899,055	-9,821	449	5,058	187	0	-155
23	532.09	1,890,864	-8,191	0	3,941	182	0	-7
24	531.38	1,882,066	-8,798	0	4,280	186	0	30
25	530.45	1,870,563	-11,503	0	5,620	214	0	35
26	530.38	1,869,698	-865	0	257	226	0	47
27	529.48	1,858,592	-11,106	0	5,389	229	0	19
28	528.84	1,850,708	-7,884	0	3,748	197	0	-30
29	528.18	1,842,590	-8,118	0	3,900	198	0	5
30	527.50	1,834,238	-8,352	0	3,902	177	0	-132
31	526.69	1,824,308	-9,930	0	4,827	141	0	-38
Total			-199,717	5,549	97,670	5,603	0	-2,965
Mean cfs			- - -	179	3,151	181	0	-96
ac-ft			-199,717	11,004	193,729	11,114	0	-5,878

1/ Pacheco Tunnel, San Felipe Split; Santa Clara: 8,141 AF, San Benito: 2,973 AF.

Table 16. San Luis Field Division Plant Data

(in acre-feet)

July 1998

Date	Dos Amigos Pumping Plant		Gianelli Pumping - Generating Plant				San Felipe Project
	Total Pumping	SWP Pumping 1/, 2/	Total Generation	SWP Generation 1/, 2/	Total Pumping	SWP Pumping 1/, 2/	Federal
1	15,055	7,405	2,602	-48	0	0	295
2	14,686	6,939	2,602	-56	0	0	294
3	15,006	5,992	2,602	-93	0	0	288
4	15,899	6,226	6,248	-218	0	0	295
5	13,299	3,686	1,045	-32	0	0	284
6	13,063	2,647	6,254	-213	0	0	327
7	15,578	4,859	8,708	2,292	293	293	379
8	15,700	5,158	6,159	433	1,464	1,463	383
9	17,313	7,119	6,099	37	579	579	295
10	17,429	7,301	6,099	-89	1,017	1,017	307
11	15,460	5,245	6,438	-7	0	0	351
12	14,683	3,513	3,866	1,068	732	732	365
13	15,212	3,829	10,132	3,939	1,279	1,280	375
14	16,875	5,495	11,302	4,979	883	883	329
15	15,733	5,803	4,134	1,547	879	879	373
16	16,611	7,014	5,171	1,034	0	0	387
17	17,094	8,113	2,922	-70	879	879	397
18	17,422	8,498	4,633	1,847	0	0	397
19	18,052	9,066	2,950	-38	1,369	1,369	383
20	18,046	9,035	7,319	-128	0	0	389
21	18,124	9,346	5,274	-114	742	742	379
22	17,959	11,545	10,033	4,485	888	888	371
23	19,188	12,680	7,817	5,717	0	0	361
24	18,673	12,612	8,489	6,421	0	0	369
25	18,795	12,779	11,147	5,937	0	0	424
26	17,792	11,770	510	509	0	0	448
27	16,905	10,823	10,689	5,753	0	0	454
28	17,282	11,216	7,434	5,451	0	0	391
29	16,844	11,264	7,736	5,448	0	0	393
30	18,163	12,721	7,740	4,344	0	0	351
31	17,982	12,447	9,575	4,429	0	0	280
Total	515,923	252,146	193,729	64,564	11,004	11,004	11,114

1/ Negative values may appear in SWP columns and indicate a mismatch of scheduled CVP energy and actual pumping;
adjustments to SWP water shares are made to balance the mismatch.

2/ Provisional, subject to change.

Table 17. Consolidated State-Federal Los Banos Reservoir

Daily Operations
July 1998

United States
Department of the Interior
Bureau of Reclamation
Central Valley Project

Capacity: 34,560 ac-ft

State of California
The Resources Agency
Department of Water Resources
State Water Project

Date	Water Surface Elev. (in feet)	Storage (ac-ft)	Storage Change (ac-ft)	Estimated Inflow (cfs)	Estimated Outflow (cfs)		Computed Losses (-) Gains (+) (ac-ft)
					Spill	Outlet	
Jun 30	329.65	21,454					
1	329.65	21,454	0	0	0	0	0
2	329.63	21,445	-9	0	0	0	-9
3	329.63	21,445	0	0	0	0	0
4	329.65	21,454	9	5	0	0	-1
5	329.65	21,454	0	0	0	0	0
6	329.65	21,454	0	0	0	0	0
7	329.65	21,454	0	0	0	0	0
8	329.63	21,445	-9	0	0	0	-9
9	329.61	21,435	-10	0	0	0	-10
10	329.58	21,421	-14	0	0	0	-14
11	329.59	21,425	4	2	0	0	0
12	329.59	21,425	0	0	0	0	0
13	329.57	21,416	-9	0	0	0	-9
14	329.56	21,411	-5	0	0	0	-5
15	329.55	21,406	-5	0	0	0	-5
16	329.54	21,401	-5	0	0	0	-5
17	329.53	21,397	-4	0	0	0	-4
18	329.52	21,392	-5	0	0	0	-5
19	329.50	21,382	-10	0	0	0	-10
20	329.47	21,368	-14	0	0	0	-14
21	329.44	21,353	-15	0	0	0	-15
22	329.44	21,353	0	0	0	0	0
23	329.44	21,353	0	0	0	0	0
24	329.41	21,339	-14	0	0	0	-14
25	329.38	21,325	-14	0	0	0	-14
26	329.37	21,320	-5	0	0	0	-5
27	329.36	21,315	-5	0	0	0	-5
28	329.33	21,301	-14	0	0	0	-14
29	329.30	21,286	-15	0	0	0	-15
30	329.27	21,272	-14	0	0	0	-14
31	329.25	21,262	-10	0	0	0	-10
Total			-192	7	0	0	-206
Mean cfs-days			---	0	0	0	---
Acre-feet			-192	14	0	0	-206

Table 18. Consolidated State-Federal Little Panoche Reservoir

Daily Operations

July 1998

United States
Department of the Interior
Bureau of Reclamation
Central Valley Project

Capacity: 5,580 ac-ft

State of California
The Resources Agency
Department of Water Resources
State Water Project

Date	Water Surface Elev. (in feet)	Storage (ac-ft) 1/	Storage Change (ac-ft) 1/	Computed Inflow (cfs)	Estimated Outflow (cfs)		Computed Losses (-) Gains (+) (ac-ft) 1/
					Spill	Outlet	
Jun 30	602.70	832					
1	602.70	832	0	4	0	4	0
2	602.70	832	0	4	0	4	0
3	602.70	832	0	4	0	4	0
4	Not Observed			4	0	4	
5	Not Observed			4	0	4	
6	Not Observed			4	0	4	
7	Not Observed			4	0	4	
8	Not Observed			4	0	4	
9	Not Observed			4	0	4	
10	602.70	832	0	4	0	4	0
11	Not Observed			4	0	4	
12	Not Observed			4	0	4	
13	Not Observed			4	0	4	
14	Not Observed			4	0	4	
15	Not Observed			4	0	4	
16	Not Observed			4	0	4	
17	602.70	832	0	4	0	4	0
18	Not Observed			4	0	4	
19	Not Observed			4	0	4	
20	Not Observed			4	0	4	
21	Not Observed			4	0	4	
22	Not Observed			4	0	4	
23	Not Observed			4	0	4	
24	602.70	832	0	4	0	4	0
25	Not Observed			4	0	4	
26	Not Observed			4	0	4	
27	Not Observed			4	0	4	
28	Not Observed			4	0	4	
29	Not Observed			4	0	4	
30	Not Observed			4	0	4	
31	602.70	832	0	5	0	5	0
Total			0	125	0	125	---
Mean cfs			---	4	0	4	---
ac-ft			0	248	0	248	0

1/ Not available on a daily basis

Table 19a. Governor Edmund G. Brown California Aqueduct

San Luis Field Division, Monthly Deliveries

(In acre-feet)

July 1998

Reach No.	Operating Pool			Turnout	Total Diver- sions	Deliveries							
	Beginning and Ending					USBR	Transfer or Exchange	DWR Recreation	USBR Recreation				
	No.	Structure	Mile										
2B	12	Check No. 12	66.71		194,247								
3	13	O'Neill Forebay		Department of Parks and Recreation	20			11	9				
		Outlet Check No. 13	70.85	Department of Fish & Game	0			0	0				
			70.91	San Luis Water District	3,843	3,843							
			Thru		(Floodwater Inflow)					22			
			85.08		Reach 3 Subtotal:					3,863	3,843	0	11
			Dos Amigos Pumping Plant	86.73		515,923							
4	14		89.03	San Luis Water District	12,000	12,000							
			Thru										
			94.06	Pacheco Water District	2,081	2,081							
			89.66								Panoche Water District	5	5
			Thru										
		89.67	City of Dos Palos	173	173								
	89.70												
	Check No. 14	95.06											
	15		98.15	San Luis Water District	975	975							
			Thru										
			104.20	Panoche Water District	14,449	14,449							
			96.15				(Floodwater Inflow)	25					
Thru													
102.64		Broadview Water District	3	3									
102.64	Westlands Water District	29,789	29,789										
Thru													
108.64													
Check No.15	108.50												
				Pacheco Water District Total:	2,081	2,081	0	0	0				
				Broadview Water District Total:	3	3	0	0	0				
				City of Dos Palos Total:	173	173	0	0	0				
				SLWD Reach 4 Subtotal:	12,975	12,975	0	0	0				
				Panoche Water District Total:	14,454	14,454	0	0	0				
				SLWD Total:	16,818	16,818	0	0	0				
				Westlands WD Reach 4 Subtotal:	29,789	29,789	0	0	0				

Table 19b. Governor Edmund G. Brown California Aqueduct

San Luis Field Division, Monthly Deliveries (Continued)

(In acre-feet)

July 1998

Reach No.	Operating Pool			Turnout	Total Diver- sions	Deliveries			
	Beginning and Ending					USBR	Transfer or Exchange 1/	DWR Recreation	USBR Recreation
	No.	Structure	Mile						
5	16		110.52	(Reverse flow, Kings River)	0	39,138			
			Thru	Westlands Water District	39,138				
			122.05	Department of Fish and Game	0				
		Check No. 16	122.07						
	17		124.18	Westlands Water District	34,604	34,604			
			Thru						
		132.74							
	Check No. 17	132.95							
	18		133.81	Westlands Water District	32,380	32,380			
			Thru						
			142.61						
		Pleasant Valley Pumping Plant	143.16	Westlands Water District	22,966	22,966			
			143.16	City of Coalinga	581	581			
	Check No. 18	143.23							
				Westlands WD Reach 5 Subtotal:	129,088	129,088	0	0	0
6	19		145.26	Westlands Water District	48,334	28,311	20,023		
			Thru						
	151.19								
	Check No. 19	155.64							
			Westlands WD Reach 6 Subtotal:	48,334	28,311	20,023	0	0	
7	20		156.34	City of Huron	149	149	24,887		
			156.40	Westlands Water District	24,887				
			Thru						
		163.69							
	Check No. 20	164.69							
	21		164.79	City of Avenal	249	249	8,113		
			167.04	Westlands Water District	8,287				
Thru									
171.67									
Check No. 21	172.40		248,566						
			Reach 7 Total:	33,572	572	33,000	0	0	
			Westlands WD Total:	240,385	187,362	53,023	0	0	
			City of Coalinga Total:	581	581	0	0	0	
			City of Huron Total:	149	149	0	0	0	
			City of Avenal Total:	249	249	0	0	0	
			Phase I Water Total:	0	0	0	0	0	
Total San Luis Field Division Deliveries:					274,913	221,870	53,023	11	9

1/ KCWA entitlement delivered to WWD in accordance to agreements made in April, June, and July 1998.

Table 20. Consolidated State-Federal San Luis Canal 1/

Daily Operations

July 1998

United States
Department of the Interior
Bureau of Reclamation
Central Valley Project

State of California
The Resources Agency
Department of Water Resources
State Water Project

Date	Storage In Canal (ac-ft)	Storage Change (ac-ft)	Inflow (cfs)		Outflow (cfs)				Computed Losses (-) Gains (+) (cfs)
			Non- Project 2/	Dos Amigos Pumping Plant	San Luis Water Dist. 3/	Panoche Water District	Westlands Water Dist. 4/	Flow Past Check 21	
Jun 30	28,870								
1	29,464	594	1	7,590	173	236	4,003	2,593	-287
2	29,117	-347	0	7,404	227	264	4,588	2,889	389
3	28,719	-398	0	7,565	284	224	4,043	2,980	-235
4	29,718	999	0	8,016	180	218	4,166	2,558	-391
5	29,719	1	1	6,705	206	276	4,048	2,245	70
6	29,127	-592	0	6,586	277	184	3,991	2,585	153
7	29,454	327	1	7,854	208	276	4,257	2,732	-217
8	28,608	-846	0	7,915	153	207	4,033	3,624	-325
9	28,661	53	1	8,729	298	260	4,319	3,853	27
10	28,884	223	0	8,787	295	268	4,249	4,126	263
11	28,672	-212	1	7,794	224	248	3,736	3,814	120
12	29,010	338	0	7,403	213	248	3,610	3,403	241
13	29,350	340	1	7,669	192	154	3,955	3,649	451
14	29,350	0	0	8,508	217	192	3,819	4,124	-156
15	29,429	79	1	7,932	220	240	3,780	4,136	483
16	29,184	-245	0	8,375	261	211	3,853	4,352	178
17	29,222	38	1	8,618	275	239	3,649	4,479	42
18	28,845	-377	0	8,783	172	262	3,944	4,831	236
19	29,213	368	1	9,101	299	258	3,808	4,530	-21
20	28,964	-249	0	9,098	298	267	4,127	4,895	363
21	28,785	-179	1	9,137	311	266	4,534	4,840	723
22	28,545	-240	0	9,054	333	277	3,337	4,682	-546
23	28,617	72	1	9,674	317	265	4,489	5,171	603
24	28,818	201	0	9,414	236	216	3,353	4,746	-762
25	29,088	270	1	9,476	215	210	3,901	4,849	-166
26	29,360	272	0	8,970	248	209	4,079	4,722	425
27	29,494	134	0	8,523	258	209	3,138	4,343	-507
28	29,108	-386	0	8,713	263	209	3,796	4,894	254
29	28,720	-388	0	8,492	259	226	3,394	4,774	-35
30	29,196	476	0	9,157	283	253	3,982	4,840	441
31	29,347	151	0	9,066	283	215	3,706	5,058	272
Total		477	13	260,108	7,678	7,287	121,687	125,317	2,086
Mean (cfs)		- - -	0	8,391	248	235	3,925	4,042	67
Acre-feet		477	25	515,923	15,229	14,454	241,367	248,566	4,145

1/ San Luis Canal includes Pools 14 through 21 of the California Aqueduct.

2/ Flood Water is included in the gain or loss

3/ Includes 2,080 AF AG & 1 AF M&I to Pacheco W.D. and 173 AF to the City of Dos Palo

4/ Includes 149 AF to the City of Huron, 249 AF to the City of Avenal, 581 AF to the City of Coalinga, 0 Phase I Water @ Lat. 13R, and 3 AF to Broadview W.D

Table 21. San Joaquin Field Division Plant Data

(in acre-feet)

July 1998

Date	Coastal Aqueduct					California Aqueduct			
	Las Perillas Pumping Plant	Badger Hill Pumping Plant	Devil's Den Pumping Plant	Bluestone Pumping Plant	Polonio Pass Pumping Plant	Buena Vista Pumping Plant	Teerink Pumping Plant	Chrisman Pumping Plant	Edmonston Pumping Plant
1	742	800	91	101	93	3,233	2,447	2,193	2,021
2	689	729	91	91	91	3,223	2,532	2,253	2,048
3	672	701	81	82	85	3,249	2,476	2,196	2,095
4	671	703	91	93	95	3,125	2,485	2,147	1,885
5	656	686	89	91	93	2,730	2,005	1,824	1,694
6	719	748	76	76	78	2,776	2,259	1,947	1,827
7	760	809	82	82	84	3,178	2,576	2,270	2,106
8	781	832	74	76	76	3,259	2,501	2,165	1,934
9	683	717	69	74	74	2,996	2,160	1,935	1,852
10	773	831	97	97	97	3,356	2,643	2,368	2,201
11	657	711	101	100	101	2,664	2,051	1,869	1,664
12	624	650	89	91	93	2,670	1,447	1,700	1,690
13	603	616	70	73	73	2,781	2,247	2,238	1,896
14	760	873	111	112	112	3,718	3,079	2,695	2,514
15	726	793	89	91	92	3,698	3,073	2,674	2,509
16	628	693	86	87	89	4,160	3,045	2,679	2,508
17	772	804	105	105	107	3,718	3,198	2,817	2,561
18	814	868	97	97	99	4,127	3,203	2,877	2,678
19	850	918	98	99	103	4,254	3,681	3,388	3,210
20	837	903	87	87	90	3,590	3,088	2,698	2,606
21	826	893	120	121	122	3,810	3,507	3,152	2,878
22	796	858	76	78	81	3,749	2,821	2,533	2,398
23	713	770	89	89	94	4,582	3,646	3,265	3,185
24	704	755	106	108	111	4,353	3,583	3,238	3,059
25	770	790	73	74	75	4,064	3,457	3,147	2,928
26	843	918	101	101	102	4,213	3,642	3,346	3,226
27	793	852	71	72	76	3,893	3,058	2,900	2,686
28	819	899	83	84	85	4,002	3,325	2,971	2,792
29	857	918	79	81	85	3,790	3,285	2,963	2,788
30	850	918	106	108	108	3,997	3,290	2,978	2,793
31	812	872	102	103	103	3,812	3,293	2,967	2,766
Total	23,200	24,828	2,780	2,824	2,867	110,770	89,103	80,393	74,998

Table 22a. Governor Edmund G. Brown California Aqueduct

San Joaquin Field Division, Monthly Deliveries

(In acre-feet)

July 1998

Reach No.	Operating Pool			Turnout	Total Diver- sions	Deliveries										
	Beginning and Ending					Entitle- ment	Semitropic WSD Storage	Purchase Pool A	Transfer 1/	MWD Ent. 2/						
	No.	Structure	Mile													
7	21	Check No. 21	172.40		248,566	600 1,867 631 964 5,490 554 690 9,642 1,154			90							
8C	22		172.66	Empire West Side Irrig. Dist. TL - A	0											
				County of Kings TL - A	0											
				TLBWSD TL-A	690											
8D			175.18	DRWD - 1	1,867											
			177.54	DRWD - 1B	631											
			180.64	TLBWSD - C	0											
			180.65	DRWD - 1A	964											
			182.99	DRWD - 2	5,490											
			183.00	Tulare Lake Basin WSD TL - B	554											
31A			184.63	Coastal Branch	23,200											
8D					Dudley Ridge Water Dist. DRWD - 3						2,690	690		2,000		
					Dudley Ridge Reach 8D Total:						11,642	9,642	0	2,000	0	0
					Tulare Lake Basin WSD Total:						1,244	1,154	0	0	90	0
Check No. 22			184.82								7,713 3,364 2,024 2,517 15,618					
9	23		189.69	Kern County Water Agency Lost Hills Water Dist. - 1	7,713											
			191.18	Kern County Water Agency Lost Hills Water Dist. - 2	3,364											
			194.22	Kern County Water Agency Lost Hills Water Dist. - 3	2,024											
			196.40	Kern County Water Agency Berrenda Mesa - 2	0											
			196.75	Kern County Water Agency Lost Hills Water Dist. - 4	2,517											
				K.C.W.A. Reach 9 Subtotal:	15,618	15,618	0	0	0	0						
Check No. 23			197.05			3,108 4,455 2,322 1,491 31,575 4,337 0 47,288										
10A	24		201.24	Kern County Water Agency Lost Hills Water Dist. - 7	3,108											
			202.05	Kern County Water Agency Lost Hills Water Dist. - 5	4,455											
			204.69	Kern County Water Agency Lost Hills Water Dist. - 6	0											
			205.26	Kern County Water Agency Lost Hills Water Dist. - 8	0											
25			209.71	Kern County Water Agency Belridge Water Storage Dist. - 1A	2,322											
			209.78	Kern National Wildlife Refuge USBR BV-1B	0											
				Kern County Water Agency Buena Vista WSD 1B	1,491											
			209.80	KCWA Semitropic WSD	31,575											
				KCWA Semitropic WSD Penstocks	14,237											
				USBR Total:	0	0	0	0	0	0						
				K.C.W.A. Reach 10A Subtotal:	57,188	47,288	9,750	0	0	150						

1/ Dudley Ridge WD Ag entitlement transferred to TLBWSD.

2/ Semitropic WSD is storing this water for MWD.

Table 22b. Governor Edmund G. Brown California Aqueduct
San Joaquin Field Division, Monthly Deliveries (Continued)

(In acre-feet)

July 1998

Reach No.	Operating Pool			Turnout	Total Diver- sions	Deliveries										
	Beginning and Ending					Entitle- ment	Semitropi c WSD Storage	Purchase Pool A	Transfer	MWD Ent.						
	No.	Structure	Mile													
11B	25		210.75	Kern County Water Agency Belridge - 2	0	3,268										
			214.11	Kern County Water Agency Belridge - 3	3,268											
			216.62	Kern County Water Agency Belridge - 4	0											
			217.13	Kern County Water Agency Belridge - 5	16,472	16,472										
				Kern County Water Agency Belridge - 5D	82						82					
			Check No. 25	217.79												
				K.C.W.A. Reach 11B Subtotal :			19,822	19,822	0	0	0	0				
12D	26		219.58	Kern County Water Agency Belridge - 6	0	3,451 267 2,697										
	Check No. 26	224.92														
12E	27		230.37	Kern County Water Agency Buena Vista - 6	3,451											
			Check No. 27	231.73												
	28		235.75	Kern County Water Agency Buena Vista - 2	267						267 2,697					
			238.04	Kern County WA CVC	2,697											
				DRWD CVC	0											
				Tulare Co.	0											
				Lower Tule River	0											
				Fresno Co.	0											
				Pixley ID	0											
				Hacienda DWR Wells	0											
	Check No. 28	238.11														
				1/ Arvin Edison Total:							0	0	0	0	0	
			Reach 12E Subtotal:								6,415	6,415	0	0	0	0
13B	29		241.02	Kern River Intertie (inflow)	12,803						1,293					
				KCWA Buena Vista WSD - 7	1,293											
			242.85	KCWA Buena Vista WSD - 5	0											
			243.09	Kern County Water Agency Buena Vista - 3	2,489						2,489					
			Check No. 29	244.54	Buena Vista WSD	0										
	30		249.85	Kern County Water Agency Buena Vista - 4	1,351	1,351										
			Buena Vista Pumping Plant	250.99			110,770									
				K.C.W.A. Reach 13B Subtotal:			5,133	5,133	0	0	0					0
14A	31		254.47	Kern County Water Agency West Kern - 2	0	245										
			256.11	Kern County Water Agency Wheeler Ridge-Maricopa - 2	245											

1/ Arvin Edison Contractors include Rag Gulch WD, Kern-Tulare WD, Fresno County, Hills Valley ID, Tri Valley WD, Tulare County, Lower Tule River ID, and Pixley ID.

Table 22c. Governor Edmund G. Brown California Aqueduct
San Joaquin Field Division, Monthly Deliveries (Continued)

(In acre-feet)

July 1998

Reach No.	Operating Pool			Turnout	Total Diver- sions	Deliveries										
	Beginning and Ending					Entitle- ment	Semitropic WSD Storage	Purchase Pool A	Transfer	MWD Ent.						
	No.	Structure	Mile													
14A	31	Check No. 31	256.14			1,164 2,332										
	32		258.61	Kern County Water Agency Wheeler Ridge-Maricopa - 3	1,164											
			260.44	Kern County Water Agency Wheeler Ridge-Maricopa - 4	2,332											
			Check No. 32	261.72												
				KCWA Reach 14A Subtotal:	3,741	3,741	0	0	0	0						
14B	33		264.42	Kern County Water Agency Wheeler Ridge-Maricopa - 5	7,096	7,096 996										
			266.91	Kern County Water Agency Wheeler Ridge-Maricopa - 6	996											
			Check No. 33	267.36												
	34		270.24	Kern County Water Agency Wheeler Ridge-Maricopa - 7	6,733	6,733										
			Check No. 34	271.27												
					Reach 14B Total:	14,825	14,825	0	0	0	0					
14C	35		272.39	Kern County Water Agency Wheeler Ridge-Maricopa - 8	3,742	3,742 1,720										
			276.09	Kern County Water Agency Wheeler Ridge-Maricopa - 9	1,720											
					Reach 14C Total:	5,462	5,462	0	0	0	0					
15A			Teerink Pumping Plant	278.13		89,103	942 6,695 7,637									
	36		279.02	Kern County Water Agency Wheeler Ridge-Maricopa - 9A	942											
			280.06	Kern County Water Agency Wheeler Ridge-Maricopa - 10	6,695											
				Reach 15-A Total:	7,637	7,637						0	0	0	0	
	16A		Chrisman Pumping Plant	280.36		80,393	633 473 1,946 444 1,240 4,736									
37			282.06	Kern County Water Agency Wheeler Ridge-Maricopa - 11	0											
			Check No. 37	283.95												
38			285.01	Kern County Water Agency Wheeler Ridge-Maricopa - 12	0	633										
			286.39	Kern County Water Agency Wheeler Ridge-Maricopa - 13A	633											
			287.06	Kern County Water Agency Wheeler Ridge-Maricopa - 13	0											
			Check No. 38	287.09												
39			287.62	Kern County Water Agency Wheeler Ridge-Maricopa - 13B	473	473										
			Check No. 39	290.21												
40			291.26	Kern County Water Agency Wheeler Ridge-Maricopa - 14	1,946	1,946 444 1,240 4,736										
			293.07	Kern County Water Agency Wheeler Ridge-Maricopa - 15	444											
				Kern County Water Agency Tehachapi Cummings CWD	1,240											
				K.C.W.A. Reach 16A Subtotal:	4,736											
17E		Edmonston Pumping Plant	293.45		74,998											

Table 23. Governor Edmund G. Brown California Aqueduct

San Joaquin Field Division, Monthly Deliveries (Coastal Branch)

(In acre-feet)

July 1998

Reach No.	Operating Pool			Turnout	Total Diver- sions	Deliveries									
	Beginning and Ending					Entitle- ment	Semitropic WSD Storage	Purchase Pool A	Transfer	MWD Ent. 1/					
	No.	Structure	Mile												
31A	C-1	Coastal Branch Control	0.02		23,200	6									
		Las Perillas Pumping Plant	1.16		23,200										
	C-2		3.79	Green Valley Water District	0										
		Badger Hill Pumping Plant	4.27		24,828										
	C-3	Coastal Check No. 3	7.21												
	C-4		9.34	Castaic Lake WA (Devil's Den WD #1)	6										
		Coastal Check No. 4	9.34												
	C-5	Coastal Check No. 5	12.20												
	C-6		13.30	Kern County Water Agency Berrenda Mesa - 3	1,719						1,719				
			14.83	Kern County Water Agency Berrenda Mesa - DD	0										
				Kern County Water Agency Berrenda Mesa - PO	16,616										
		Devil's Den Pumping Plant	14.86		2,780										
				K.C.W.A. Reach 31A Subtotal:	18,335	18,335	0	0	0	0					
				K.C.W.A. Total:	158,912	149,012	9,750	0	0	150					
33A	C-7	Bluestone Pumping Plant	19.05		2,824	2,403									
	C-8	Polonio Pass Pumping Plant	26.54		2,867										
	C-9	Tank Site 1	27.81	(CCWA) Polonio Pass Treatment Plant											
	C-10	Shandon T.O.	38.23	Santa Barbara County (CCWA)	2,403										
		Tank Site 2	58.63	Central Coast:	0										
	C-11	Chorro Valley T.O.	69.31	San Luis Obispo County (CCWA)	423										
		Energy Dissipater	78.12												
34	C-12	Lopez T.O.	85.86	SLOCFC & WCD	0	2,826	0	0	0	0					
			CCWA Total:	2,826											
35		Guadalupe T.O.	102.70	SBCFC & WCD	0										
		Santa Maria T.O.	107.43	SBCFC & WCD	0										
		So. Cal. Water T.O.	109.20	SBCFC & WCD	0										
38					SBCFC & WCD Total:	0	0	0	0	0	0				
			Tank Site 5	115.42											

1/ Semitropic WSD is storing this water for MWD.

Table 24. Southern Field Division Plant Data

(in acre-feet)

July 1998

Date	West Branch				East Branch						
	Oso Pumping Plant	Warne Powerplant Generation	Castaic Powerplant		Alamo Powerplant			Pearblossom Pumping Plant	Mojave Siphon Powerplant		Devil Canyon Powerplant Generation
			Generation	Pumpback	Generation	Bypass Through Plant	Cottonwood Chute		Generation	Bypass Flume	
1	507	572	6,856	4,943	1,539	0	0	981	1,026	0	1,074
2	506	571	6,476	5,237	1,421	0	0	999	951	93	1,189
3	593	761	1,141	4,511	1,466	0	0	1,070	962	31	1,131
4	407	202	1,411	4,102	1,434	0	0	879	1,002	4	988
5	306	256	663	2,813	1,302	0	0	954	1,009	0	1,018
6	297	563	8,251	3,248	1,537	0	0	1,108	1,035	19	1,148
7	591	661	8,980	6,155	1,439	0	0	1,110	1,063	35	1,422
8	576	579	7,122	6,449	1,340	0	0	933	994	38	1,155
9	645	744	5,331	4,998	421	0	1,418	1,004	950	0	1,189
10	591	583	7,723	4,600	388	0	1,112	938	875	21	1,274
11	527	564	5,505	4,682	1,096	0	0	835	858	38	907
12	306	0	722	8,857	1,300	0	0	975	1,114	0	1,063
13	349	1,017	5,571	4,866	1,591	0	0	1,175	989	0	1,133
14	950	991	6,260	4,608	1,475	0	0	1,136	993	24	1,715
15	527	852	6,676	4,370	1,914	0	78	1,547	1,364	0	1,698
16	702	622	9,491	4,472	1,721	0	98	1,353	1,474	0	1,512
17	689	551	7,063	4,670	878	0	983	1,468	1,619	71	1,637
18	574	796	2,132	6,001	2,042	0	0	1,639	1,625	35	2,047
19	778	0	1,179	6,535	2,378	0	0	1,855	1,388	0	1,676
20	325	715	4,458	3,697	1,980	0	331	1,867	2,039	112	2,219
21	679	725	6,137	3,525	1,927	0	274	1,762	1,977	12	1,948
22	627	824	6,573	2,943	1,701	0	0	1,458	1,514	0	1,722
23	860	883	6,687	2,524	2,134	0	152	1,681	1,519	0	1,811
24	848	766	5,912	3,251	2,023	0	219	1,391	1,014	5	1,817
25	842	813	5,148	3,627	2,046	0	0	1,566	2,179	0	1,677
26	884	517	2,494	6,781	2,296	0	0	1,669	1,486	0	1,723
27	862	1,465	5,936	5,968	1,938	0	0	1,566	1,471	0	1,915
28	826	849	6,602	4,326	1,824	0	0	1,497	1,525	37	1,633
29	841	1,208	4,340	2,933	1,845	0	0	1,421	1,372	0	1,786
30	1,374	246	2,785	1,670	1,422	0	0	1,329	1,077	33	1,604
31	1,142	1,082	3,464	2,546	1,780	0	0	1,212	1,159	0	1,250
Total	20,531	20,978	159,089	139,908	49,598	0	4,665	40,378	39,623	608	46,081

Table 25. Pyramid Lake

Daily Operation

Capacity: 171,200 ac-ft

(in acre-feet except as noted)

July 1998

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow			Computed Losses (-) Gains (+)
				Project		Natural	Project		Natural	
				Castaic Powerplant Pumpback	Warne Powerplant	Stream Flow	Castaic Powerplant Generation	Recreation Deliveries	To Piru Creek	
Jun 30	2569.59	159,270								
1	2568.27	157,642	-1,628	4,943	572	131	6,856	0	50	-368
2	2567.22	156,355	-1,287	5,237	571	127	6,476	0	50	-696
3	2571.10	161,146	4,791	4,511	761	128	1,141	0	50	582
4	2573.64	164,333	3,187	4,102	202	123	1,411	0	50	221
5	2575.82	167,102	2,769	2,813	256	117	663	0	50	296
6	2571.88	162,120	-4,982	3,248	563	112	8,251	0	50	-604
7	2569.95	159,716	-2,404	6,155	661	110	8,980	0	50	-300
8	2569.79	159,518	-198	6,449	579	106	7,122	0	50	-160
9	2569.71	159,419	-99	4,998	744	103	5,331	0	50	-563
10	2568.09	157,421	-1,998	4,600	583	103	7,723	0	50	489
11	2567.16	156,281	-1,140	4,682	564	98	5,505	0	50	-929
12	2574.51	165,435	9,154	8,857	0	94	722	0	50	975
13	2574.60	165,549	114	4,866	1,017	92	5,571	0	50	-240
14	2573.57	164,245	-1,304	4,608	991	87	6,260	0	50	-680
15	2572.48	162,873	-1,372	4,370	852	85	6,676	0	50	47
16	2568.47	157,888	-4,985	4,472	622	83	9,491	0	50	-621
17	2565.81	154,636	-3,252	4,670	551	79	7,063	0	50	-1,439
18	2570.68	160,623	5,987	6,001	796	77	2,132	0	50	1,295
19	2574.81	165,815	5,192	6,535	0	76	1,179	0	50	-190
20	2574.83	165,841	26	3,697	715	78	4,458	0	50	44
21	2573.51	164,169	-1,672	3,525	725	76	6,137	0	50	189
22	2571.15	161,208	-2,961	2,943	824	76	6,573	0	50	-181
23	2568.64	158,097	-3,111	2,524	883	76	6,687	0	50	143
24	2567.35	156,514	-1,583	3,251	766	73	5,912	0	50	289
25	2566.83	155,878	-636	3,627	813	69	5,148	0	50	53
26	2570.88	160,872	4,994	6,781	517	64	2,494	0	50	176
27	2571.92	162,170	1,298	5,968	1,465	64	5,936	0	50	-213
28	2570.77	160,735	-1,435	4,326	849	62	6,602	0	50	-20
29	2570.63	160,560	-175	2,933	1,208	57	4,340	0	50	17
30	2569.41	159,048	-1,512	1,670	246	58	2,785	0	50	-651
31	2569.37	158,998	-50	2,546	1,082	58	3,464	0	48	-224
Total			-272	139,908	20,978	2,742	159,089	0	1,548	-3,263

Table 26. Elderberry Forebay

Daily Operation

(in acre-feet except as noted)

Capacity: 32,746 ac-ft

July 1998

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow		Outflow			Computed Losses (-) Gains (+)
				Castaic Powerplant Generation	Natural	Castaic Powerplant Pumpback	To Castaic Lake		
							Natural	Project	
Jun 30	1526.58	26,121							
1	1531.21	28,244	2,123	6,856	44	4,943	44	0	210
2	1534.35	29,728	1,484	6,476	43	5,237	43	0	245
3	1526.79	26,215	-3,513	1,141	40	4,511	40	0	-143
4	1517.06	22,005	-4,210	1,411	39	4,102	39	1,412	-107
5	1511.56	19,789	-2,216	663	40	2,813	40	0	-66
6	1517.24	22,038	2,249	8,251	36	3,248	36	2,718	-36
7	1524.23	25,075	3,037	8,980	36	6,155	36	0	212
8	1521.74	23,987	-1,088	7,122	35	6,449	35	1,746	-15
9	1522.53	24,330	343	5,331	34	4,998	34	0	10
10	1529.99	27,677	3,347	7,723	35	4,600	35	0	224
11	1531.99	28,610	933	5,505	34	4,682	34	0	110
12	1513.33	20,488	-8,122	722	33	8,857	33	0	13
13	1515.00	21,161	673	5,571	32	4,866	32	0	-32
14	1519.15	22,880	1,719	6,260	31	4,608	31	0	67
15	1518.71	22,694	-186	6,676	28	4,370	28	2,294	-198
16	1525.35	25,571	2,877	9,491	25	4,472	25	2,173	31
17	1531.84	28,539	2,968	7,063	23	4,670	23	0	575
18	1522.83	24,461	-4,078	2,132	21	6,001	21	0	-209
19	1509.87	19,134	-5,327	1,179	20	6,535	20	0	29
20	1511.72	19,852	718	4,458	19	3,697	19	0	-43
21	1513.38	20,508	656	6,137	20	3,525	20	1,882	-74
22	1521.73	23,983	3,475	6,573	20	2,943	20	0	-155
23	1530.73	28,020	4,037	6,687	22	2,524	22	0	-126
24	1529.07	27,252	-768	5,912	23	3,251	23	3,401	-28
25	1532.22	28,718	1,466	5,148	21	3,627	21	0	-55
26	1522.51	24,322	-4,396	2,494	20	6,781	20	0	-109
27	1523.00	24,535	213	5,936	18	5,968	18	0	245
28	1522.53	24,330	-205	6,602	16	4,326	16	2,503	22
29	1525.50	25,638	1,308	4,340	15	2,933	15	0	-99
30	1524.39	25,145	-493	2,785	16	1,670	16	1,607	-1
31	1519.41	22,990	-2,155	3,464	17	2,546	17	3,057	-16
Total			-3,131	159,089	856	139,908	856	22,793	481

Table 27. Castaic Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 323,699 ac-ft

July 1998

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow		Computed Losses (-) Gains (+)
				From Elderberry Forebay		Natural	Deliveries	Released To Castaic Lagoon	
				Natural	Project				
Jun 30	1512.10	317,255							
1	1511.70	316,372	-883	44	0	65	693	99	-200
2	1511.30	315,491	-881	43	0	72	776	99	-121
3	1510.90	314,611	-880	40	0	65	752	99	-134
4	1511.30	315,491	880	39	1,412	60	713	99	181
5	1511.00	314,831	-660	40	0	57	721	60	24
6	1512.00	317,034	2,203	36	2,718	55	630	60	84
7	1511.70	316,372	-662	36	0	57	744	60	49
8	1512.19	317,454	1,082	35	1,746	69	747	60	39
9	1511.89	316,791	-663	34	0	69	708	60	2
10	1511.49	315,909	-882	35	0	53	691	60	-219
11	1511.19	315,249	-660	34	0	48	761	60	79
12	1510.89	314,589	-660	33	0	43	657	60	-19
13	1510.59	313,930	-659	32	0	43	660	60	-14
14	1510.19	313,053	-877	31	0	41	689	40	-220
15	1511.09	315,029	1,976	28	2,294	38	724	40	380
16	1511.99	317,012	1,983	25	2,173	41	758	40	542
17	1511.59	316,130	-882	23	0	38	875	40	-28
18	1511.19	315,249	-881	21	0	36	889	40	-9
19	1510.79	314,369	-880	20	0	36	875	40	-21
20	1510.39	313,491	-878	19	0	33	815	40	-75
21	1510.69	314,149	658	20	1,882	31	938	40	-297
22	1510.29	313,272	-877	20	0	31	974	40	86
23	1509.79	312,177	-1,095	22	0	31	941	40	-167
24	1510.59	313,930	1,753	23	3,401	29	1,192	40	-468
25	1510.19	313,053	-877	21	0	29	1,049	40	162
26	1509.69	311,958	-1,095	20	0	24	1,022	40	-77
27	1509.09	310,647	-1,311	18	0	23	1,168	40	-144
28	1509.59	311,739	1,092	16	2,503	21	1,208	40	-200
29	1509.09	310,647	-1,092	15	0	21	1,121	40	33
30	1509.69	311,958	1,311	16	1,607	21	1,057	40	764
31	1510.49	313,710	1,752	17	3,057	21	1,042	40	-261
Total			-3,545	856	22,793	1,301	26,590	1,646	-259

Table 28. Governor Edmund G. Brown California Aqueduct

Southern Field Division, Monthly Deliveries (West Branch)

(In acre-feet)

July 1998

Reach No.	Operating Pool			Turnout	Total Diver- sions	Deliveries					
	Beginning and Ending					Entitle- ment	Rec.	Local	Purchase Pool B	CLWA T1	14 B M & I
	No.	Structure	Mile								
29A	42	Oso Pumping Plant	1.49		20,531	9,215 8,242 1,254 18,711	31	0	0	1,848 -1,848 0	6,000
29F	W2	Quail Lake	5.02	Antelope Valley-East Kern Water Agency	Re- moved						
		Quail Lake Embankment	7.82	Antelope Valley-East Kern Water Agency	Stub						
		29G	Warne Power Plant	14.07							
29H	W3	Pyramid Lake		Calif. State Park Pyramid Recreation	0						
		Pyramid Dam	17.10	Piru Creek Fish Enhancement	0						
29J	W4	Castaic Power Plant	25.82	(139,908 AF pumpback)	159,089						
		Elderberry Forebay									
		Forebay Dam	28.12								
30 1/	W5	Castaic Lake		Calif. State Park Castaic Lake Recreation	31						
		Castaic Dam	31.47								
		Castaic Lake Outlet	31.55	MWD - 78"	15,215						
				MWD - 132"	10,090						
				CLWA - T1	-1,848						
				Castaic Lake Water Agency	1,254						
				United Water Conservation Dist.	0						
				Ventura County FCD	Stub						
				LA Co. Parks & Recreation	0						
				Releases to Lagoon	1,646						
		Reach 30 Subtotal:	24,742								
	W6	Castaic Lagoon		Recreation to Lagoon	143						
		Castaic Lagoon Outlet	31.87		1,525						

1/ Reach 30 actually terminates at mile 31.50. It is shown here as including the outlet works at mile 31.55.

All deliveries from the outlet works and from the Lagoon are billed to Reach 30.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

July 1998

Date	Water Surface Elev. (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) Gains (+)	Las Flores Ranch Exchange 1/
				Project		Natural Stream Inflow	Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume		Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Jun 30	3352.36	72,417											
1	3352.36	72,417	0	1,026	0	48	6	0	1,074	0	0	6	46
2	3352.13	72,197	-220	951	93	52	6	0	1,189	0	1	-120	46
3	3351.96	72,035	-162	962	31	48	6	0	1,131	0	0	-66	46
4	3351.97	72,044	9	1,002	4	44	5	0	988	0	1	-47	46
5	3351.97	72,044	0	1,009	0	40	7	0	1,018	0	0	-24	46
6	3351.86	71,939	-105	1,035	19	39	3	0	1,148	0	1	-46	46
7	3351.54	71,634	-305	1,063	35	38	3	0	1,422	0	0	-16	46
8	3351.39	71,492	-142	994	38	36	3	0	1,155	0	48	-4	46
9	3351.08	71,197	-295	950	0	35	3	0	1,189	0	65	-23	46
10	3350.65	70,790	-407	875	21	34	3	0	1,274	0	28	-32	45
11	3350.53	70,676	-114	858	38	32	3	0	907	0	0	-132	45
12	3350.66	70,799	123	1,114	0	29	3	0	1,063	0	1	47	45
13	3350.48	70,629	-170	989	0	28	3	0	1,133	0	0	-51	45
14	3349.67	69,866	-763	993	24	25	4	0	1,715	0	1	-85	42
15	3349.36	69,575	-291	1,364	0	24	3	0	1,698	0	1	23	46
16	3349.30	69,519	-56	1,474	0	23	3	0	1,512	0	0	-38	46
17	3349.37	69,585	66	1,619	71	22	3	1	1,637	0	0	-5	46
18	3348.99	69,229	-356	1,625	35	21	3	1	2,047	0	0	14	42
19	3348.69	68,949	-280	1,388	0	21	3	1	1,676	0	1	-8	45
20	3348.58	68,847	-102	2,039	112	21	4	1	2,219	0	0	-50	45
21	3348.57	68,837	-10	1,977	12	20	3	1	1,948	0	0	-67	45
22	3348.31	68,595	-242	1,514	0	21	3	1	1,722	0	0	-51	45
23	3348.05	68,354	-241	1,519	0	20	3	1	1,811	0	1	36	45
24	3347.17	67,540	-814	1,014	5	19	3	1	1,817	0	0	-31	45
25	3347.70	68,029	489	2,179	0	17	2	0	1,677	0	0	-28	45
26	3347.43	67,780	-249	1,486	0	17	0	0	1,723	0	0	-29	45
27	3346.99	67,374	-406	1,471	0	15	0	0	1,915	0	0	23	44
28	3346.87	67,263	-111	1,525	37	14	3	1	1,633	0	0	-50	44
29	3346.37	66,804	-459	1,372	0	13	3	1	1,786	0	1	-53	44
30	3345.84	66,319	-485	1,077	33	12	3	1	1,604	0	0	1	44
31	3345.62	66,118	-201	1,159	0	11	3	1	1,250	0	1	-116	44
Total			-6,299	39,623	608	839	103	12	46,081	0	151	-1,022	1,396

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 30. Lake Perris**Daily Operation**

(in acre-feet except as noted)

Capacity: 131,452 ac-ft

July 1998

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow 1/	Outflow 2/	Computed Losses (-) Gains (+) 1/
Jun 30	1587.17	124,944				
1	1587.17	124,944	0		10	
2	1587.15	124,898	-46		10	
3	1587.13	124,852	-46		11	
4	1587.12	124,829	-23		11	
5	1587.15	124,898	69		10	
6	1587.25	125,126	228		10	
7	1587.28	125,195	69		10	
8	1587.33	125,309	114		10	
9	1587.33	125,309	0		10	
10	1587.32	125,286	-23		10	
11	1587.32	125,286	0		11	
12	1587.29	125,217	-69		10	
13	1587.28	125,195	-22		11	
14	1587.30	125,240	45		6	
15	1587.33	125,309	69		11	
16	1587.34	125,332	23		10	
17	1587.36	125,377	45		159	
18	1587.33	125,309	-68		605	
19	1587.32	125,286	-23		606	
20	1587.34	125,332	46		330	
21	1587.34	125,332	0		330	
22	1587.34	125,332	0		437	
23	1587.37	125,400	68		310	
24	1587.37	125,400	0		331	
25	1587.37	125,400	0		605	
26	1587.36	125,377	-23		706	
27	1587.33	125,309	-68		456	
28	1587.33	125,309	0		308	
29	1587.29	125,217	-92		328	
30	1587.23	125,081	-136		357	
31	1587.12	124,829	-252		294	
Total			-115	7,290	6,323	-1,082

1/ Readings are not taken on a daily basis. End of month only.

2/ Includes deliveries to MWD from Reach 28J and recreation water to California State Park at Lake Perris.

Table 31a. Governor Edmund G. Brown California Aqueduct

Southern Field Division, Monthly Deliveries (East Branch)

(In acre-feet)

July 1998

Reach No.	Operating Pool			Turnout	Total Diver- sions	Deliveries														
	Beginning and Ending					Entitle- ment	Rec.	Transfer	Purchase Pool B	Transfer Local Out										
	No.	Structure	Mile																	
17E	40	Edmonston Pumping Plant	293.45		74,998	421														
	41		298.65	Kern County Water Agency Tej.-Cas	Stub															
		17F	Check No. 41	303.41																
18A	42	Check No. 42	304.99																	
19	43	Alamo Powerplant	305.73	(Does not include 4,665 AF flow down Cottonwood Chute)	49,598						86									
			308.05	Antelope Valley-East Kern WA	421															
		Check No. 43	309.70																	
	44		311.84	LADWP Connection	0											4,449		175		
			313.50	AVEK 245th Street West	0															
		Check No. 44	314.81																	
	45		314.93	AVEK 235th Street West	86															
			315.57	AVEK 225th Street West	0															
		Check No. 45	319.74																	
	46		323.19	Antelope Valley-East Kern WA Fairmont	4,624															
		Check No. 46	323.84																	
					Reach 19 Total:	4,710	4,956	0	175	0						0				
20A	47	Check No. 47	326.77			62														
	48		326.91	Antelope Valley-East Kern WA Willow Springs Siphon	62															
			329.65	Antelope Valley-East Kern WA 120th Street West	Re- moved															
		Check No. 48	330.82																	
	49	Check No. 49	335.93								39 3,760									
	50		336.73	AVEK WA - Quartz Hill (Wheeled for Palmdale WD)	39															
			Antelope Valley-East Kern WA	3,760																
20B		Check No. 50	341.51			1,195														
	51	Check No. 51	342.07																	
	52		342.80	Antelope Valley-East Kern WA 30th Street West	Not in Use															
		Check No. 52	343.74																	
	53		346.98	PWD Palmdale	1,195															
			348.14	Antelope Valley-East Kern WA Acton Treatment Plant	0															
Check No. 53		348.17																		
21	54	Check No. 54	350.25			91														
	55	Check No. 55	352.70																	
	56	Check No. 56	354.76																	
			354.97	Littlerock Creek I.D.	91															
		Check No. 57	356.93																	
22A	58		357.72	Antelope Valley-East Kern WA 96th Street East	176	176														
22B			359.82	Antelope Valley-East Kern WA East Side Treatment Plant	554						554									

Table 31b. Governor Edmund G. Brown California Aqueduct

Southern Field Division, Monthly Deliveries (East Branch, Continued)

(In acre-feet)

July 1998

Reach No.	Operating Pool			Turnout	Total Diver- sions	Deliveries																		
	Beginning and Ending					Entitle- ment	Rec.	Transfer	Purchase Pool B	Local	14 B M & I													
	No.	Structure	Mile																					
22B	58	Pearblossom Pumping Plant	360.61		40,378	195																		
	59	Check No. 59	366.09																					
	60	Check No. 60	373.94																					
	61	Check No. 61	379.00																					
	62	Check No. 62	384.26																					
	63	Check No. 63	389.50																					
	64	Check No. 64	395.10																					
	65	Check No. 65	400.32																					
	23	66		401.10	Mojave Water Agency Morongo 24" and 42"							195	12				1,396	103						
				Mojave Water Agency Hesperia	0																			
		Check No. 66	403.41																					
24	67	Mojave Siphon	405.48	Las Flores Ranch	1,396																			
		Mojave Siphon Powerplant	405.65	(Does not include 608 AF of bypass at Mojave Flume)	39,623																			
Silverwood Lake		407.65	Crestline Lake Arrowhead Water Agency	103	12																			
			Calif. State Park Silverwood Agency (Rec.)																					
25		San Bernardino Tunnel	411.46		46,081							0												
				San Gorgonio Pass Water Agency																				
26A		Devil Canyon Powerplant	412.73		46,081							3,379							5,683	4,000	11,000			
		Devil Canyon Afterbay Control Structures	412.88	MWD-SC Rialto	3,379																	1,100	1,891	315
				Desert Water Agency (MWD Wheeling Exchange)	9,683																			
				San Gabriel Valley Water District	1,100																			
				Coachella Valley WD (MWD Wheeling Exchange)	12,891																			
				San Bernardino Valley Water District	315																			
MWD (SBVMWD Exchange)				0																				
28G	69	Santa Ana Valley Pipeline	425.46		8,511	3,001	322																	
28H			433.06	MWD-SC Box Springs				8,511																
			440.05	MWD-SC Perris Bypass Pipeline				3,001																
28J			Lake Perris	442.00	MWD-SC 18"	322	1,936	4,004																
				443.44	MWD-SC 54"	1,936																		
					MWD-SC 78"	4,004																		
	Calif. State Park Lake Perris Recreation				61																			
				MWD Total:	67,184	46,184	0	175	15,000	1,499	6,000													

Table 32. Water Quality At Selected SWP Locations

July 1998

Constituent	Units	Thermalito Afterbay At Outlet	North Bay Aqueduct Barker Slough Pumping Plant	Banks Pumping Plant	Delta Mendota Canal At McCabe Rd.	California Aqueduct				Devil Canyon Afterbay Near San Bernardino
						O'Neill Forebay Outlet (Check 13)	Kettleman City (Check 21)	Near Hwy 119 (Check 29)	Tehachapi Afterbay (Check 41)	
Alkalinity	mg/l	33	150	33	32	52	53	48	41	59
Arsenic	mg/l	<0.001	0.004	0.002	0.001	0.002	0.002	0.002	0.002	0.003
Boron	mg/l	<0.1	0.4	NR	<0.1	0.1	0.1	0.1	0.1	0.1
Bromide	mg/l	NR	0.07	0.04	0.04	0.13	NR	NR	0.07	0.03
Calcium	mg/l	7	25	9	9	14	14	12	12	14
Carbon - Total Organic	mg/l	NR	6	4	NR	3	NR	NR	4	4
Chloride	mg/l	<1	25	12	13	43	40	29	22	12
Chromium	mg/l	<0.005	0.008	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	mg/l	0.001	0.005	0.011	0.002	0.002	0.002	0.002	0.002	0.002
Fluoride	mg/l	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2
Hardness	mg/l	27	151	38	36	67	65	57	52	54
Iron	mg/l	<0.005	<0.005	0.140	0.010	<0.005	<0.005	<0.005	<0.005	<0.005
Lead	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium	mg/l	3	21	4	4	8	7	6	5	5
Manganese	mg/l	<0.005	0.011	0.014	0.012	<0.005	<0.005	<0.005	<0.005	0.017
Nitrate + Nitrite	mg/l	<0.01	0.54	0.39	NR	NR	NR	NR	NR	0.12
Phosphorus-Ortho	mg/l	<0.01	0.14	0.07	NR	0.09	NR	NR	0.08	0.04
Phosphorus-Total	mg/l	0.01	0.24	0.16	NR	0.15	NR	NR	0.20	0.06
Selenium	mg/l	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Sodium	mg/l	3	38	13	13	33	31	25	19	17
Specific Conductance	µS/cm	69	457	148	145	312	298	244	205	192
Sulfate	mg/l	1	45	16	15	27	26	22	20	16
Total Dissolved Solids	mg/l	38	249	85	77	180	162	124	114	100
Trihalomethane Formation Potential	µg/l	NR	849.792	356.408	410.432	450.676	NR	415.464	485.202	420
Turbidity	NTU	6	49	28	52	22	69	76	140	NR
Zinc	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

mg/l milligrams per liter
µg/l micrograms per liter
µS/cm microSiemens per centimeter
NR - Not Reported
NTU - nephelometric turbidity units

Table 33. Water Quality At Selected Delta Stations

July 1998

Date	Tides (feet above mean sea level)		Flow In CFS			Electrical Conductivity in milliSiemens/cm										Cl in mg/l
	(Antioch) Daily Mean		Net Delta		Rio Vista	Antioch	Chippis Island	Emmaton		Jersey Point		Clifton Court	Cache Slough	Delta Mendota Canal	Contra Costa Canal Intake	
			Outflow Index													
	Mean Daily	Monthly Average	md	md	md	md	14dm	md	14dm	md	md	md				
1	2.86	1.18	51,000	51,000	31,537	0.12	NC	0.13	0.13	0.10	0.11	0.04	1.00	0.16	23	
2	2.86e	1.17	48,670	49,835	28,917	0.13	NC	0.13	0.13	0.10	0.11	0.04	1.00	0.16	24	
3	3.00e	1.21	44,905	48,192	28,945	0.12	NC	0.13	0.13	NC	0.11	0.06	0.98	0.16	25	
4	3.21	1.38	44,370	47,236	28,051	0.13	NC	0.13	0.13	NC	0.11	0.06	1.00	0.16	26	
5	3.44	1.52	42,726	46,334	27,175	0.12	NC	0.13	0.13	NC	0.11	0.06	0.99	0.17	24	
6	3.62	1.60	41,029	45,450	26,758	0.12	NC	0.13	0.13	NC	NC	0.07	0.97	0.17	24	
7	3.67	1.61	42,037	44,962	26,173	0.13	NC	0.13	0.13	NC	NC	0.07	0.94	0.18	24	
8	3.83	1.79	43,594	44,791	24,625	0.12	NC	0.12	0.13	NC	NC	0.06	0.94	0.17	25	
9	4.05	1.87	41,102	44,381	24,251	0.12	NC	0.13	0.13	NC	NC	0.06	0.95	0.17	24	
10	4.02	1.78	38,061	43,749	23,807	0.11	NC	0.13	0.13	NC	NC	0.05	0.94	0.16	24	
11	3.74	1.56	37,293	43,162	23,148	NC	NC	0.13	0.13	0.10	NC	0.05	0.97	0.16	25	
12	3.47	1.47	37,515	42,692	22,216	0.12e	NC	0.13	0.13	0.10	NC	0.04	0.93	0.15	25	
13	3.33	1.56	40,486	42,522	21,413	0.11	NC	0.13	0.13	0.10	NC	0.03	0.89	0.14	24	
14	3.06	1.51	39,237	42,288	21,172	0.12	NC	0.14	0.13	0.10	NC	0.03	0.83	0.14	25	
15	3.02	1.27	34,250	41,752	20,671	0.12	NC	0.14	0.13	0.10	NC	0.05	0.85	0.14	26	
16	3.39	1.32	32,009	41,143	20,038	0.13	NC	0.14	0.13	0.10	NC	0.05	0.89	0.15	26	
17	3.63	1.47	30,037	40,489	16,576	0.13	NC	0.14	0.13	0.10	NC	0.06	0.88	0.15	25	
18	3.63	1.44	30,519	39,936	14,216	0.13	NC	0.14	0.13	0.10	NC	0.06	0.91	0.16	24	
19	3.79	1.59	28,480	39,333	14,108	0.13	0.13	0.14	0.13	0.10	NC	0.07	0.97	0.16	22	
20	4.09	1.85	27,488	38,740	14,064	0.14	0.21	0.14	0.13	0.10	NC	0.09	1.00	0.18	22	
21	4.19	1.81	25,772	38,123	14,331	0.14	0.25	0.14	0.14	0.10	0.10	0.09	1.03	0.20	22	
22	4.07	1.79	26,728	37,605	13,985	0.14	0.23	0.14	0.14	0.10	0.10	0.10	1.01	0.20	21	
23	4.12	1.87	25,580	37,082	13,974	0.13	0.20	0.14	0.14	0.10	0.10	0.10	0.99	0.21	20	
24	4.12	1.87	24,942	36,576	13,831	0.14	0.16	0.14	0.14	0.10	0.10	0.11	0.96	0.22	20	
25	3.86	1.80e	24,465	36,092	14,118	0.14	0.16	0.14	0.14	0.10	0.10	0.11	0.96	0.22	20	
26	3.63	1.72e	21,771	35,541	14,080	0.14	0.14	0.14	0.14	0.10	0.10	0.11	0.99	0.22	19	
27	3.30	1.61e	23,477	35,094	14,387	NC	NC	0.14	0.14	0.10	0.10	0.12	1.01	0.23	18	
28	2.99	1.49e	23,732	34,688	14,371	NC	NC	0.15	0.14	0.10	0.10	0.13	1.05	0.26	17	
29	2.97	1.38	22,482	34,267	14,455	0.14	NC	0.14	0.14	0.10	0.10	0.10	1.10	0.28	18	
30	2.98	1.33	22,492	33,875	13,981	0.14	NC	0.14	0.14	0.10	0.10	0.11	1.14	0.27	18	
31	2.92	1.22	21,298	33,469	14,339	0.13	0.13	0.15	0.14	0.10	0.10	0.11	1.15	0.26	16	

Clifton Court Cl(mg/l)=200X EC - 25

N.R. = No Record.

N.C. = Not computed due to insufficient data.

f = Excess Delta conditions with fish concerns.

r = Excess delta conditions with export/inflow ratio concernsmd = Daily Mean

s = Balanced water conditions with storage withdrawals. md = Mean Daily

**Table 34. Pesticides, Herbicides, and Other Organic
Substances Detected In the SWP**

July 1998

Sampling Location	Sample	Chemical Detected	Concentration
	Date		µg/l
	1/		2/
North Bay Aqueduct At Barker Slough Pumping Plant	June-15-1998	None Detected	
California Aqueduct At Banks Pumping Plant	June-15-1998	None Detected	
Delta Mendota Canal At McCabe Road	June-15-1998	None Detected	
California Aqueduct Near Kettleman City (Check 21)	June-15-1998	None Detected	
California Aqueduct At Tehachapi Afterbay (Check 41)	June-15-1998	None Detected	
Devil Canyon Power Plant At Entrance To Santa Ana Pipeline	June-15-1998	MTBE	2.40

1/ Locations are normally sampled during March, June, and September. Monthly reports will include data for the month in which samples were most recently taken.

2/ Micrograms per liter.

Table 35. Oroville and Delta Field Divisions Energy Data

(in kWh)

July 1998

Date	Oroville Thermalito Complex		Barker Slough Pumping Plant Load	Cordelia Pumping Plant Load	Banks Pumping Plant		South Bay Pumping Plant Load	Del Valle Pumping Plant Load
					Total Load	SWP Load		
	Generation	Load						
1	15,893,568	0	31,290	21,714	2,175,360	2,175,360	401,495	218
2	14,864,832	0	31,115	23,863	2,360,640	2,360,640	398,685	250
3	15,489,792	0	32,046	24,290	2,155,584	2,155,584	385,155	241
4	12,052,512	0	33,271	24,199	1,893,504	1,893,504	370,830	221
5	10,846,656	0	31,115	22,799	1,544,448	1,544,448	374,225	219
6	12,034,944	0	32,620	22,099	1,336,320	1,336,320	381,140	214
7	14,109,120	0	32,501	22,834	875,520	875,520	411,815	206
8	10,646,496	0	34,720	25,515	433,728	433,728	430,390	239
9	10,184,832	0	34,951	25,459	1,251,840	1,251,840	439,435	220
10	11,271,456	0	30,674	21,448	2,336,064	2,336,064	421,290	231
11	6,135,840	288	32,249	22,743	2,371,200	2,371,200	407,730	218
12	8,848,512	0	34,321	23,121	1,886,400	1,886,400	384,880	202
13	8,444,160	0	38,311	25,676	320,640	320,640	399,490	223
14	10,620,576	288	36,043	24,255	317,184	317,184	384,810	230
15	13,419,360	0	33,418	26,173	1,904,640	1,904,640	387,315	228
16	12,893,760	576	38,290	28,924	2,260,608	2,260,608	399,065	244
17	11,976,192	0	39,830	28,749	2,332,032	2,332,032	400,880	247
18	7,269,984	0	36,827	25,382	2,290,176	2,290,176	398,175	210
19	6,734,304	0	41,293	29,757	2,475,648	2,475,648	391,745	192
20	9,554,112	0	32,249	22,960	2,557,632	2,557,632	394,475	223
21	11,199,168	0	39,851	29,792	2,666,880	2,666,880	399,525	214
22	11,443,680	288	36,414	29,379	1,978,944	1,978,944	399,770	210
23	11,271,456	0	39,256	31,360	2,115,072	2,115,072	400,400	209
24	11,256,192	1,728	35,427	24,283	2,120,640	2,120,640	411,325	222
25	9,389,952	3,168	36,120	24,885	2,120,640	2,120,640	401,215	237
26	9,821,088	288	37,639	26,817	3,617,856	3,617,856	401,660	273
27	12,616,128	2,880	38,626	27,342	2,096,832	2,096,832	400,185	264
28	11,159,424	0	35,945	25,172	2,094,336	2,094,336	400,485	226
29	10,318,464	864	30,891	22,729	1,950,528	1,950,528	398,030	195
30	12,021,696	0	36,477	26,446	2,174,208	2,174,208	390,885	204
31	9,843,552	288	31,164	21,973	2,108,736	2,108,736	393,055	237
Total	343,631,808	10,656	1,084,944	782,138	60,123,840	60,123,840	12,359,560	6,967

Table 36. San Luis Field Division Energy Data

(in kWh)

July 1998

Date	Dos Amigos Pumping Plant		Gianelli Pumping-Generating Plant			
	Total Load	SWP Load 1/	Total Generation	SWP Generation 1/	Total Load	SWP Load 1/
1	2,066,256	1,016,256	736,416	-13,584	15,840	15,840
2	1,990,512	940,512	734,112	-15,888	15,840	15,840
3	2,022,624	807,624	724,032	-25,968	15,264	15,264
4	2,115,360	828,360	1,739,232	-60,768	9,504	9,504
5	1,780,416	493,416	291,168	-8,832	14,112	14,112
6	1,757,088	356,088	1,740,672	-59,328	10,080	10,080
7	2,036,016	635,016	2,368,512	623,512	106,560	106,560
8	2,086,560	685,560	1,742,400	122,400	517,248	517,248
9	2,379,456	978,456	1,750,752	10,752	211,104	211,104
10	2,410,848	1,009,848	1,738,656	-25,344	361,152	361,152
11	2,120,400	719,400	1,821,888	-2,112	8,928	8,928
12	2,046,672	489,672	995,040	275,040	260,640	260,640
13	2,080,656	523,656	2,748,672	1,068,672	591,552	591,552
14	2,308,896	751,896	3,089,088	1,361,088	312,192	312,192
15	2,143,728	790,728	1,126,656	421,656	245,376	245,376
16	2,243,088	947,088	1,410,048	282,048	17,280	17,280
17	2,312,496	1,097,496	780,192	-18,808	298,368	298,368
18	2,372,112	1,157,112	1,328,832	529,832	16,128	16,128
19	2,440,944	1,225,944	788,832	-10,168	530,784	530,784
20	2,433,312	1,218,312	2,217,312	-38,688	13,824	13,824
21	2,508,624	1,293,624	1,380,096	-29,904	249,984	249,984
22	2,469,600	1,587,600	2,719,872	1,215,872	317,376	317,376
23	2,600,640	1,718,640	2,098,944	1,534,944	12,384	12,384
24	2,541,744	1,716,744	2,265,984	1,713,984	11,520	11,520
25	2,577,600	1,752,600	2,952,000	1,572,000	12,096	12,096
26	2,437,344	1,612,344	115,488	115,488	20,160	20,160
27	2,293,056	1,468,056	2,836,800	1,526,800	11,232	11,232
28	2,350,512	1,525,512	1,963,872	1,439,872	13,248	13,248
29	2,272,896	1,519,896	2,028,384	1,428,384	12,960	12,960
30	2,513,376	1,760,376	2,058,336	1,155,336	12,384	12,384
31	2,446,272	1,693,272	2,511,936	1,161,936	12,672	12,672
Total	70,159,104	34,321,104	52,804,224	17,250,224	4,257,792	4,257,792

1/ Negative values may appear in SWP columns and indicate a mismatch of scheduled CVP energy and actual pumping; adjustments to SWP water shares are made to balance the mismatch.

Table 37. San Joaquin Field Division Pumping Plant Energy Load Data

(in kWh)

July 1998

Date	Coastal Branch					California Aqueduct			
	Las Perillas	Badger Hill	Devils Den	Bluestone	Polonio	Buena Vista	Teerink	Chrisman	Edmonston
1	54,870	152,504	66,132	69,066	66,996	781,632	643,248	1,344,096	4,531,680
2	50,008	141,928	65,628	67,986	65,484	802,368	665,208	1,376,928	4,590,720
3	48,450	138,432	59,472	61,128	60,480	780,840	653,616	1,339,776	4,701,600
4	49,004	138,568	66,654	68,598	67,680	751,752	654,120	1,319,616	4,215,600
5	47,792	136,080	65,286	67,428	66,276	662,688	529,056	1,108,512	3,793,680
6	52,460	145,096	55,674	56,520	56,574	681,120	594,216	1,207,584	4,083,840
7	55,818	154,000	59,760	61,596	60,642	793,440	672,192	1,408,608	4,681,440
8	56,564	157,528	54,468	56,646	55,062	785,664	655,776	1,344,096	4,339,440
9	49,734	137,624	50,490	55,278	54,324	729,000	569,376	1,217,664	4,152,240
10	56,534	157,512	70,110	71,892	69,516	815,472	690,840	1,448,352	4,923,360
11	48,074	136,760	73,098	73,998	72,450	650,736	538,992	1,147,104	3,788,640
12	45,446	127,632	64,908	67,446	66,870	630,720	502,992	1,077,120	3,803,760
13	44,092	114,848	50,040	52,614	52,614	655,200	588,888	1,219,680	4,304,160
14	54,542	151,808	80,334	81,522	79,380	877,608	804,888	1,656,000	5,703,120
15	52,278	149,136	64,818	67,050	65,772	893,448	805,392	1,639,008	5,656,320
16	44,768	130,968	62,604	63,774	63,648	936,216	787,392	1,639,872	5,653,440
17	55,170	153,672	75,528	76,752	76,482	922,680	841,464	1,734,624	5,778,000
18	58,720	162,904	69,966	71,460	71,568	991,656	826,488	1,765,728	6,036,480
19	61,186	169,792	71,496	72,918	73,314	1,028,736	960,264	2,071,872	7,204,320
20	59,958	167,216	63,594	64,386	65,160	907,128	806,040	1,665,504	5,903,280
21	59,080	165,864	86,598	88,308	86,148	951,192	914,328	1,990,272	6,492,240
22	57,336	161,336	56,232	57,924	57,744	914,760	735,408	1,558,080	5,412,240
23	53,344	148,864	65,106	66,384	67,572	1,108,656	952,416	2,106,432	7,212,960
24	52,030	147,016	76,824	79,200	78,786	1,022,976	938,376	2,035,008	6,924,960
25	56,144	155,040	53,514	55,458	54,576	989,784	905,472	1,965,024	6,631,920
26	60,692	169,848	72,810	74,934	72,792	1,020,168	953,712	2,044,512	7,303,680
27	57,826	160,584	52,290	54,738	54,954	913,752	823,680	1,810,368	6,313,680
28	59,136	167,112	60,732	62,154	61,164	956,880	867,096	1,846,944	6,105,600
29	61,352	169,880	57,924	59,616	58,464	969,768	859,752	1,846,944	6,195,600
30	61,182	169,872	76,590	79,200	77,544	962,352	858,816	1,853,280	6,325,200
31	58,974	163,336	73,782	76,158	73,728	935,640	861,696	1,852,992	6,330,240
Total	1,682,564	4,702,760	2,022,462	2,082,132	2,053,764	26,824,032	23,461,200	49,641,600	169,093,440

Table 38. Southern Field Division Energy Data

(in kWh)

July 1998

Date	West Branch			East Branch			
	Oso	Warne	Castaic	Alamo	Pearblossom	Devil Canyon	Mojave Siphon
	Pumping Plant Load	Powerplant Generation	Powerplant SWP Generation	Powerplant Generation	Pumping Plant Load	Powerplant Generation	Powerplant Generation
1	148,008	363,960	480,000	178,220	677,160	1,338,912	81,291
2	161,336	363,024	480,000	169,932	690,540	1,479,264	76,797
3	164,864	479,160	480,000	175,392	735,648	1,411,488	77,763
4	121,128	119,592	480,000	171,892	604,500	1,235,136	80,241
5	96,768	156,816	480,000	152,348	659,880	1,269,024	80,913
6	86,016	358,416	480,000	183,204	758,964	1,429,152	81,564
7	165,144	416,232	480,000	172,452	758,412	1,745,760	84,966
8	165,032	368,856	480,000	158,284	632,736	1,384,896	79,338
9	179,088	466,992	480,000	48,496	693,516	1,476,000	73,836
10	156,968	370,584	480,000	45,836	645,168	1,570,464	69,342
11	158,256	362,376	480,000	129,696	578,988	1,129,632	67,683
12	96,376	0	480,000	154,812	672,684	1,319,520	88,683
13	83,384	620,496	840,000	187,740	806,448	1,392,960	78,666
14	266,280	617,472	840,000	179,732	779,952	2,001,024	79,842
15	146,440	509,256	840,000	228,424	1,058,460	2,021,568	106,974
16	190,848	377,568	840,000	206,528	934,044	1,817,664	120,288
17	191,464	338,760	840,000	103,768	1,005,144	1,957,152	132,972
18	166,600	497,952	840,000	243,880	1,114,788	2,503,872	132,573
19	219,520	0	840,000	287,644	1,274,664	2,023,968	106,995
20	89,488	451,584	600,000	234,640	1,259,868	2,657,184	165,942
21	185,696	449,568	600,000	227,192	1,194,048	2,342,496	154,560
22	186,760	513,792	600,000	205,856	995,124	2,090,208	118,461
23	233,184	558,792	600,000	255,724	1,140,168	2,188,224	125,181
24	237,664	483,840	600,000	238,588	956,052	2,199,264	85,575
25	234,360	515,304	600,000	244,104	1,069,620	2,051,424	176,904
26	247,576	305,424	600,000	281,260	1,142,220	2,071,200	121,989
27	232,624	847,080	600,000	230,496	1,062,804	2,298,048	123,795
28	232,120	537,048	600,000	219,324	1,001,880	1,977,888	125,349
29	238,056	714,312	600,000	219,156	973,440	2,144,832	111,825
30	386,288	156,024	600,000	163,912	910,080	1,906,272	93,009
31	284,648	606,744	600,000	211,624	828,876	1,525,920	102,165
Total	5,751,984	12,927,024	18,840,000	5,910,156	27,615,876	55,960,416	3,205,482